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A
TREASURE
OF
Uſeful Diſcoveries.

CONTAINING,

Remarks on divers ALIMENTS or EATABLES, whereby to know which are not digeſted by our Stomachs; and thoſe unfit for our Bodies are pointed out: Alſo, an Account of the NUTRIMENT or CHYLE divers Foods give into the Blood; proper to be known by Perſons apt to be too corpulent or too thin, in order to prevent Pain and Diſeaſes, and, in a great Meaſure, ſudden Deaths: With a Number of valuable Diſcoveries, particularly,

A Method of deſtroying Bugs in Houſes; and to prevent the ill Practice of opening Letters, or any ſealed Things.

By B. GODFREY, *M. D.*

DUBLIN:
Printed and ſold by JAMES HUNTER, at his
Printing-Office in *Sycamore-Alley*, 1760.

PREFACE.

THE proper ways of feeding our bodies ſeem as little known to the generality of mankind as the reaſons for the effects of the magnet; at leaſt we do not ſee perſons practiſe them: and indeed there is nothing more difficult than to perſuade perſons to a regard of any Thing ſaid on this ſubject, ſo great is the deſire of gratifying the itch of the palate.

Many great phyſicians have laid down admirable Rules for regimen, all which ſeem to lie neglected; and indeed I cannot ſay I conceive great hopes of rouſing up perſons to an attention to matters of this kind by the few things I ſhall deliver: however, I cannot be eaſy till I have attempted it, and will not yet give up all hopes of ſucceſs.

A
TREASURE, &c.

Obſervations upon Aliments, &c. *in order to preſerve Health and long Life.*

I AM confirmed in the Opinion, that our Bodies are deſigned for about 90 Years, and, that if we fall ſhort of that Age, it is in great Part our Faults, by erring either in the Quantity or Quality of the Aliments we make Uſe, (not that I would be underſtood to mean that we are not ſubject to Diſeaſes, the nice Frame of the animal Œconomy certainly renders us obnoxious thereto) and much further than that Age Life cannot run, becauſe Oſſifications will not let us; that is, the grand Channels of our Blood, the Arteries, as well as the other Parts ſerving to the vital Functions, will turn to Bones, whence the Machine ſtands ſtill; and this happens the ſooner, when the Perſon has been of a laborious Life.

I INTEND, at preſent, to mention thoſe vegetable Eatables, which I have found by Experiments and Obſervations not to be wrought on by the Stomach, and which are ejected in a crude, undigeſted State, and therefore uſeleſs to our Bodies; and others of the animal Kind that are improper for our Uſe; and afterwards lay down ſome general Rules for Diet, for the Preſervation of Health.

VEGETABLES.—Moſt raw Herbs, as Sallads, *&c.* are of a Texture or Make that render them ſcarce digeſtible; for the Stomach works very little upon them, they paſſing moſtly in a crude State: But ſome Perſons being told of this made Anſwer, *they are of a cooling Nature*, forgetting that many of them are of a reverſe Kind; for Parſley, Sage, Mint, Creſſes, Chervil, Radiſhes, Horſe-radiſhes and Onions are of a very hot Nature, the three firſt abounding with an ætherial, chymical Oil, the others with a volatile, active Salt, which, in plethoric Habits, or a too-great Fullneſs of Blood, are very pernicious.

MUSHROOMS are wholly indigeſtible, and a Perſon may as well eat Buff or Cork; beſides, ſome of them are of a poiſonous Nature, as I have ſeen by People who eat them.

Potatoes, when roaſted, are very hard of Digeſtion, and, when boiled, are one of the ſtrongeſt of all Vegetables; however, if well boiled, may ſerve for Food to People who uſe Exerciſe.

Truffles are not digeſted.

Pickled Cucumbers, *French* Beans and other Pickles are very little worked on by the Stomach; beſides the Acid or Sourneſs they carry into the Habit may be hurtful. I have cauſed a Man to take an Emetic four Hours after eating them, and, when they were thrown up, found them as the Teeth left them.

Radishes are of a very crude Nature, and not digeſted; and they greatly heat the Blood.

Small Nuts, Wallnuts and (above all) Cheſnuts are improper to be eaten, being very crude, and occaſion Pains in the Stomach.

Unripe Fruits in general are extremely crude and indigeſtible, and introduce Miſchiefs by their Acrimony or Sourneſs; they bring on the Diarrhæas (Flux and Bloody Flux) heard of at the Seaſon when Fruits are in this State, which they effect by the eſſential Salt, inherent to the Juice, ſtimulating the Inteſtines: This Acrimony appears by the Blackneſs on a Knife when unripe Fruits are cut, which ſhews that

Part of the Steel is diſſolved. I knew a Youth who died by eating what they call Gooſberry-Fool; and others flung into violent Cholics. Moſt Fruits that are ripe may be eaten ſafely. The moſt innocent of all are Strawberries; but Currants ſuit few Perſons, becauſe of their Sourneſs; for Acids agree with few People: The Phyſician knows beſt when to order them. This Sourneſs People think to take off by Sugar, which is a great Error; for Sugar is an Acid itſelf, being made up chiefly of ſuch Parts, and committed to Diſtillation gives a Spirit not unlike Vinegar; it only hides the Sourneſs from the Taſte, and deceives the Palate.

THE Fruits that muſt be eaten with Care are Grapes, Mulberries, Figs and Melons; theſe uſed too-freely bring on frequently a Looſeneſs, like Manna; for the Sweetneſs in them is a Kind of Manna, and differing very little from it: Melons are of a cold Nature, which often ſtop natural Perſpiration, and cauſe a Surfeit. This alſo happens from Cucumbers to ſome Habits, and bring a Looſeneſs.

CHERRIES are a good Fruit; and a learned Profeſſor of *Holland* ſaid, while I was at *Leyden*, that their Juice is good againſt a Schirrus of the Liver; but it is a great Error to ſwallow their Stones, and ſet ſo fine a Part as the Stomach to grind on ſuch hard and often-pointed Things. Theſe may be abuſed; for a Gentleman, at preſent a Surgeon to one of the Regiments of Guards, told me he knew a Man who had eaten five Pounds of Cherries, by which he was made very ill, whom he relieved by large Doſes of Spirit of Hartſhorn, which containing a volatile, alcaline Salt, I ſuppoſe, engaged the ſtimulating, acid Juice of the Fruit. The late ingenious Surgeon of *Chelſea* Hoſpital acquainted me with the following odd Accident that happened from Cherries: *That Part of the Skin of one ſtuck ſo cloſe on the Coats of the Stomach of a Perſon who eat them, that the Man almoſt ſtrained to Death in vomiting, before it was cleared from the Part it adhered to.*

Eggs boiled hard; the Whites of which are wholly indigeſtible, and ſome of the worſt Things we ſuffer to enter our Stomachs; they occaſion Cholics: Let a Man eat the White of one hard Egg every Day, it is more than probable he ſhall not live a Year. The Aſſertion of ſome, *that black Radiſhes diſſolve hard Eggs*, is a Falſity. Eggs, when ſoft boiled, are one of the ſtrongeſt Foods we uſe. People vaſtly err, who imagine them a light Meal for a Perſon not well: which, however, may be eaten at Dinner, if ſoft boiled. The worſt Way we uſe them is mixing them with Ale, or other ſtrong Liquors. I have known that done, when the Egg that was put into the Ale ran together again, which making the Stomach uneaſy, an Emetic was exhibited, and the Perſon almoſt dead in getting rid of it.

CHEESE toaſted becomes like Leather, and indigeſtible; and it were to be wiſhed Cheeſe was uſed more ſparingly. The *Cheſhire* is corroſive, for it will excoriate the Mouth, *&c.* A Gentlewoman at *Waterford* had eaten toaſted Cheeſe, who was uneaſy in her Stomach, and caſt it up crude after lying in her two Days and Nights.

ANOTHER at *Newry* had done the like, who, after ten Days, took an Emetic, when the Cheeſe came up crude.

COCKLES would be beſt eat raw as Oyſters, for boiling makes them hard.

OYSTERS done in the Shell on the Fire are rendered indigeſtible, and a Man may as well eat Buff as them; otherwiſe dreſſed they are very good.

THE Tail of a Lobſter is extremely hard of Digeſtion, and this is well known to ſome People where they abound, who eat all but that Part.

UDDER of the Cow is hard of Digeſtion, which Part is very often unſound, it being ſubject to Ailments, like the Breaſts of Women.

GIZZARDS are untouched by the Stomach.

KIDNEYS and the Heart (which is a Muſcle) are very hard of Digeſtion; ſo are the Lungs and the leſſer End of a dried Tongue hardly worked on; likewiſe tough Meats. Meats eat rare-done don't afford the ſame Nouriſhment as more-done, and ſubject the Eater to the Scurvey.

IT may not be amiſs to take Notice here of the Digeſtion of voracious Creatures, as Dogs, Wolves, Tygers, Panthers, Lions, Bears, Baboons and Monkeys, the Stomachs of none of which alter hard Bones, which are found in the ſame State in the *Stercus* or Dung as the Teeth left them. How fabulous then muſt the Aſſertion be of the Oſtrich's digeſting Iron, notwithſtanding the Power of his Gizzard to grind. I made an Experiment of the Laurel Water on the Life of Animals, and killing a Dog thereby in the Preſence of ſome Phyſicians and Virtuoſos, one of the Phyſicians bid a Surgeon preſent cut open the Creature, when we found a Cartilage or Griſtle in the Ventricle or Stomach, which the Owner of the Dog remembered to have been given him ſome Hours before,

fore, which was unaltered or unworked on, and which is much leſs hard than a Bone.

Opening a Number of Vipers, I found in the Inteſtines of two of them a Mouſe, which Mice were paſſing unaltered, and which could not be digeſted becauſe of their Skin. It is ſtrange that any Perſon acquainted with the animal Œconomy ſhould expect the harder Subſtances to be digeſted by the Stomach, (which is not a Millſtone) when we know that Digeſtion is little more than Trituration, Maceration and Expanſion of the Aliments by warm, aqueous or watery Liquors; for to imagine a Fermentation is a Dream; for no vegetable Fermentation nor animal Putrefaction can be effected in four or five Hours, which is the Time the Aliments are allowed to ſtay in the Stomach to make a Chyle, before they mount the *Pylorus* or lower Orifice of the Stomach, in order to enter the Inteſtines or Guts, to be ejected; of which Thoughts, ſpeaking to a Gentleman, he objected that I did not conſider the further Work in the Inteſtines, and that, as the Aliments often remain in them forty Hours or longer, they might rot or putrify there: To which I anſwer, I believe the Inteſtines, by their periſtaltic Motion, may ſqueeze and aſſiſt in getting the Chyle ready for the Lacteals; but, if the vegetable Aliments rot, or the animal ones putrify, I aſſure myſelf that what Chyle they ſhould give for the Uſe of the Blood would be very improper for it; for it would be an *aliud quid*, a *tertium quid*, (*Corruptio unius eſt Generatio alterius*) and may be noxious or poiſonous, as we know dead Animals in the State of Putrefaction are. I cannot ſuppoſe that a Vegetable ferments in the Body, as it does in the Diſtiller's Veſſel, when he is about the Work of making an ardent Spirit; for I ſhould think that would be hindered both by the ſpirituous Liquors we take in, and the marine Salt; and I have obſerved that if a little vinous Spirit be flung into the fermenting Matter, or ſome Salt, the Operator works in vain. It is a Queſtion likewiſe, whether the volatile animal Salt in us would not alſo obſtruct it, which it may eaſily meet with, our Secretions abounding therewith, eſpecially the *Saliva* we inceſſantly ſwallow, which Salt I have, by a certain Proceſs, ſublimed from the Shirts of ſweating Men by a Water Heat, which cannot be done from the other Parts of our Bodies in a natural State without an arid Heat. It is poſſible Aliments may ſtay a longer Time in the Stomach; for an Example has been known, that a Man having eaten Grapes, and having an Ague, an Emetic was exhibited for beginning the Cure twenty-four Hours afterwards, when the Grapes were caſt up no Ways corrupted or putrified. The ſame has been obſerved of a Perſon that had eaten Cherries. I ſhall now mention a few Things that we ought to be cautious in the Uſe of.

Salt.—It is Pity we are neceſſitated to uſe Salt; for this Ingredient is but a bad Gueſt in the animal Œconomy, and thoſe at Sea woefully experience it, for they are full of the Gravel: We never take any into our Bodies without its leaving a Part behind, for it is partly indiſſoluble to our Fluids, or the human *Latex*, which contains a good deal of Subſtance or Matter itſelf, and which, on an Analyſis or chymical Examination, gives the ſame Principles or Subſtances as other animal Bodies do, and thence is leſs fit to diſſolve Salt, which chiefly remains in the Kidneys. This Inaptitude of the Salt to be diſſolved proceeds from the cloſe Combination of its acid with its own Earth, which is not ſo in Sugar, that being very innocent. There are ſome Gentlemen who think Salt neceſſary to ſtimulate the Inteſtines for the Protruſion or Expulſion of the Excrements; but I believe Nature has provided for that Work without it; which is evident from the Obſervation on the Soldier wounded in the Gall Bladder. *Philoſoph. Tranſact.* No. 414.

An Obſervation of leſs Conſequence than this may be made here, *viz.* That Salt ſpoils our Teeth by its acid Part corroding them; wherefore it is proper to waſh the Mouth with warm Water after eating; I ſay warm Water, for too-hot hurts the Juices, and quite-cold does ſo more. It is alſo neceſſary frequently to waſh the Mouth with tepid or warm Water, whether we have juſt eat or no, becauſe we naturally abound with a volatile Salt, which, joining with a Mucus, adheres to the Teeth, and hurts you. The ſame Precaution is to be uſed after ſweet Things, for Sugar don't ſpoil the Teeth from any other Cauſe than gnawing as a Salt. If an Orator of any Claſs looſes Teeth, and for the Sake of his Speech is obliged to have falſe ones put in, it is beſt to have human ones, which have a Kind of Enamel on them that makes them hold white; whereas both the Elephant's Tooth and Rhinoceros's turn yellow; but the laſt holds beſt of the two; however, both pull out the Teeth that the Catgut is tied to to hold them. It may not be amiſs to add, that no one ought to ſuffer Operators to ſcale the Teeth, for that takes off the Enamel, when the reſt ſoon crumbles to Pieces; neither ſhould the Operator file between the Teeth, for a Set of Teeth is like a Brick Arch, the one ſupports the other;

nor ſhould he uſe acid Spirits, as ſome ignorant ones do mineral Acids, which will whiten the Teeth, but are ſure to ruin them. By mineral Acids we mean *Spirit* of *Nitre*, *Spirit* of *Allum*, *Spirit* of *Vitriol*, *Oil* of *Vitriol*, *Butter* of *Antimony*, the different Sorts of *Aquafortis*, and *Spirit* of *Salt*, which laſt is what they fancy to be the beſt; and indeed vegetable Acids will hurt the Teeth too, and ſhould not be uſed, which are Lemon Juice, or Juice of Oranges, *&c.* If I may be pardoned the Digreſſion, I would add a Cure againſt the Tooth Ach of a celebrated Operator, that was kept ſecret a great while, which was a Drachm of crude Salarmoniac diſſolved in two Drachms of Lemon Juice, with which he wet Cotton, and applied. I have found that ſtrong Spirits of Wine and Camphire do much good. If I may be excuſed further Digreſſion, I would mention a Word touching thoſe troubleſome Things, Corns and Warts, the laſt of which proceed from an Acrimony in our Juices, where proper Internals are to be directed by the Phyſician, and, as to external Means, it's beſt to tie an Horſe Hair pretty tight about them, which hindering a Circulation into them, they will crumble off ſoon. Volatile Salarmoniac bound on them by a Piece of Leather will alſo deſtroy them. Corns are a Kind of incurable Caſe, for they go down to the very Perioſtium or thin Membrane that covers the Bones. They are occaſioned only by Preſſure or the Abuſe of Shoes; and indeed we ſee that the Lips of ſome Trumpeters have Corns on them, from the preſſing of the Trumpet. All topical Applications or Plaiſters offered in News-papers, *&c.* for this Purpoſe, are fallacious, and of little Uſe, as myſelf too have tried by other external Means. 'Tis better to avoid the Cauſe than to hope to find a Cure, as it is alſo in many Diſeaſes; for it would not be difficult to enumerate thirty Caſes, where the Phyſician and Surgeon will be baffled. There was at *London*, Mr. *Hardman*, the beſt Artiſt for Corns I ever met with, who, poſſeſſed of a fine Eye and Hand, uſed to run a curved or crooked Needle into the Corn; when pulling upwards, he cut round it till he got much of the Head away, even ſo as to leave an Hole as big as half a Pea, which made the Perſon eaſy for a good while, and was a good Palliation, which is near all that can be done: If ſuch an Operator is not to be had, a Piece of Cloth may be bound round the Toe, leaving an Hole for the Corn to riſe through, ſo that the Prominency of the Cloth will let leſs immediate Preſſure be on it. The above *Hardman*, getting drunk one Night near Sir *John* nor ſhould he uſe acid Spirits, as ſome ignorant ones do mineral Acids, which will whiten the Teeth, but are ſure to ruin them. By mineral Acids we mean *Spirit* of *Nitre*, *Spirit* of *Allum*, *Spirit* of *Vitriol*, *Oil* of *Vitriol*, *Butter* of *Antimony*, the different Sorts of *Aquafortis*, and *Spirit* of *Salt*, which laſt is what they fancy to be the beſt; and indeed vegetable Acids will hurt the Teeth too, and ſhould not be uſed, which are Lemon Juice, or Juice of Oranges, *&c.* If I may be pardoned the Digreſſion, I would add a Cure againſt the Tooth Ach of a celebrated Operator, that was kept ſecret a great while, which was a Drachm of crude Salarmoniac diſſolved in two Drachms of Lemon Juice, with which he wet Cotton, and applied. I have found that ſtrong Spirits of Wine and Camphire do much good. 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Oldcaſtle's, fell with his Face into a ſmall Channel from a Cow-houſe, and was ſmothered.

VINEGAR.—This in the Hand of a Phyſician may be of Service, but is what Perſons ought not to make too-free with; for Acids or Sours diſagree with moſt People; they introduce a Lentor and Coagulum into the Blood, and ſpoil its free Circulation; they occaſion Cholics, by ſtimulating the Inteſtines or Guts, the Seat of that Illneſs.

OIL.—This alſo is of Uſe in the Phyſician's Hand, but not to be played with; it palls the Stomach, and takes away the natural Appetite.

MUSTARD.—This is of Uſe in Medicine, but very improper to be made free with in Victuals; for it contains a volatile, pungent Salt, which is Fire to our Nature, heats the Blood, and increaſes its Motion to a great Degree: And of this Kind is Horſe-raddiſh, very improper for moſt Habits, but of Uſe in Medicine.

SPICES have their Uſe in Medicine, but are bad Ingredients to make free withal; they contain a fiery, active, æthereal Oil, which greatly heats the Blood, and which do much Miſchief in ſanguine or plethoric Conſtitutions, or where a Perſon is full of Blood: This Oil is much the ſame within us as ſtrong, intoxicating Liquors.

Onions, as ſaid before, are very heating, but well boiled, as is the Cuſtom with Rabbits, their active, volatile Salt is driven away, and they become mild and innocent.

Cream.—This is in ſuch a concentred or contracted State as to be very improper to uſe freely; it is one of the too-good Foods; Nature likes plain and ſimple Things: It may poſſibly be of Uſe to a conſumptive Perſon, who needs the Nutriment that would be too-much for any other. As to Milk, it is an excellent Thing, and would agree with grown Perſons as well as Children, ſaving that they drink ſtrong Liquors, in which, it meeting with an Acrimony or Sourneſs, the Milk is ſpoiled thereby. I have by ſeveral Experiments tried to take the Sourneſs from turned Milk, and find it is mended, tho' not quite cured, by Spirit of Salarmoniac, with Tartar or Salvolatile Oleoſum, which hinders its curdling in Tea. There was a Man in St. *Martin*'s Workhouſe, *London*, who had taken Milk, and after it drank ſtale Beer, when he vomited a curdled Matter four Inches long, and as big as the biggeſt Finger.

Gravy, as 'tis called.—A little of this, juſt to touch the Meat in by Way of Sauce, can do no Harm, eſpecially to thoſe who drink at Meals ſmall, diluting Liquors; but it is very improper to be ſupped freely, as ſome do, or to be uſed in Broth, *&c.* for it will ſubject the Uſers to Fevers, and is bad for thoſe of a ſcorbutic Habit; it is concentred Blood, the more watery or ſerious Part being exhaled by the Fire, the Remainder is driven into a leſs Compaſs, which is too-much for Nature.

SEVILLE ORANGES.—If we go by the Guide of Taſte only, theſe ſeem agreeable: but the Queſtion is not what we like, but what like us? They are of Uſe in the Phyſician's Hand, but noxious to uſe frequently: The ſelf-ſame may be ſaid of Lemons, or worſe.

PICKLED OLIVES.—Theſe are extremely improper for Uſe, they being full of an Oil that palls the Stomach, and beſides contain a pungent Salt, which occaſions the Senſation called the Heart-Burn; that is, a ſmall Inflammation of the Mouth of the Stomach.

METHEGLIN.—This has a corroding or gnawing Quality, for it deſtroys Fleſh put into it.

DRIED CURRANTS and RAISINS.—Theſe occaſion Cholics, and purge People, eſpecially the firſt; for the Saccharine or Sugar-like Taſte proceeds from a Salt that is in them not unlike Manna.

FISH.——There are ſeveral Kinds of Fiſh that diſagree with ſome Perſons, which being commonly known, it's needleſs to name them: If Oyſters ever purge (as they will ſome) it is not from themſelves, but the Sea-ſalt in the Liquor that is with them; they are admirable Food. As to Muſcles, it is pretty well known, they diſorder Perſons; and I have known of a Man who was full of Bliſters by them, and others ſwelled, which proceeds from a poiſonous Worm in them. *Sanctorius*, indeed, ſays, Oyſters hinder Perſpiration; they are bad in a Plethora, or where the Blood too-much abounds; they are apt to run into Corruption and Fermentation; but, though I admire many of his ſtatical Experiments, I ſhall venture on theſe Fiſh either raw or gently ſtewed. If Herrings or Sprats diſorder, it is from the Oil with which they abound. I ſpeak of purging, becauſe it is a harder Trial upon the animal Œconomy than Perſons imagine, and a Work not to be done but by the Phyſician's Order.

TOBACCO.—I muſt own I wonder more at the Uſe of this than all other Things; for Nature ſtartles at firſt at it; it occaſions a violent Sickneſs and Vomiting; it contains a fœtid Oil that is next to poiſonous: I have known very-ill Effects from chewing it; and am ſure a Man is better without the Uſe of it any Way. *Ramazzini* ſays it occaſions the Piles, renders the Lungs dry, and by robbing us of too-much Saliva brings on Conſumptions.

Teas.—I am for conſidering Teas, likewiſe Coffee and Chocolate, in a natural State, and without analyſing or taken them to Pieces; for, upon doing that, we find Principles or Subſtances that do not affect us before they are ſeparated by Art: For Example, upon a chymical Examination of Tea, Coffee, or Chocolate, we obtain a ſharp Vinegar-like Spirit, *&c.* which in a natural State is latent or unperceived, and, as ſaid above, don't affect us as ſuch. Thus Bread, doubtleſs, is good for all; but if we take it to Pieces by a chymical Proceſs, we get an hot Oil, and a ſharp, acid Spirit, neither of which, perhaps, would agree with us; therefore, I ſay, I ſhall not trouble my Reader with the Principles or latent, component Parts of them. The Green and Bohea I agree with others to be one Species of Herbs, the latter of which is now adulterated, and chiefly by a Solution of *Japan* Earth, which Earth, as it is called, I ſurmiſe is an inſpiſſated Juice or Decoction of Tea, and ſometimes by a worſe Way: This Herb has in it a very pungent and even corroſive, eſſential Salt; but as to a fixed lixivial one, as a late Writer aſſerts, it is a Miſtake; for there is no fixed Salt præ-exiſtent to Calcination, ſuch Salts are made during Calcination, by the Acid of the Vegetable preying on its own *Terra*, or Earth, and thereby forming a Salt; and which Salt being kept in a Glaſs-houſe Fire, the Acid is driven off, and you have the *Terra*: We may alſo take away this acid Part by a certain Proceſs with Sulphur. If ſtrong Tea be held in the Mouth, a diligent Obſerver will perceive an Uneaſineſs; for it begins to ſtimulate the Membrane or Skin of the Mouth, *&c.*

STRONG Tea will corrode or gnaw Fleſh; it will alſo corrode Iron: *Kæmpher*, in his Appendix to the Hiſtory of *Japan*, ſays that it has a ſtrong, narcotic Quality, (that is, of the Nature of Opium) and that it is unwholeſome till kept a Year. We know Examples of People who were great Drinkers of ſtrong Tea, who died thereby, and who being opened, their Stomachs were found ulcerated; I am confirmed by Obſervations and Experiments that a too-free Uſe of Tea made ſtrong is very pernicious; its eſſential Salt ſpoils the Texture of the nervous Fluid, called the animal Spirits; it coagulates the Blood, and impedes its free Circulation: It is an Error to think it raiſes our Spirits; it is only the Effects of the hot Water; hot Water and Straw will do the ſame, which holds but a little while, and then the Drinker almoſt trembles. Our own Country produces about eighteen hundred *Simples*, out of which we may pick very pretty Teas, without ſailing to *Turky*, the *Eaſt* and *Weſt Indies*, for a Breakfaſt, as we do for this Herb, Coffee, and Chocolate, for the firſt of which we ſend Coin: Thoſe who are reſolved to uſe it, let them make it ſmall, and add thereto ſome Milk, which by its butyrous Part takes off, in ſome Meaſure, its Sting. I am of Opinion that moſt of the modern, nervous Illneſſes in *London*, and Lowneſs of Spirits, ariſe from the Abuſe of Tea, and the Uſe of thoſe deadly Doſes, Drams; and in which I have the concurring Sentiments of ſeveral of our learned Phyſicians.

COFFEE.—A few Diſhes of this not made too-ſtrong can do no Harm, eſpecially if ſome tepid Water (Water that has the Cold taken off) be drank before or after, as I always do; but I am ſatisfied, that too-ſtrong Coffee may be noxious; for its innate, fœtid Oil is ratified and puſhed towards the Surface by the Act of Roaſting, whereby it becomes like an *Oleum Philoſophorum* (as it is called) or Oil of Bricks, very pungent and active, which renders the Decoction of Coffee almoſt capable of convulſing the Stomach: This hot Oil muſt ſurely be bad for Perſons of a plethoric

Habit, or that abound with Blood: It may be drank very well as had in the Coffee-houſes.

CHOCOLATE.—This is a very-ſtrong Ingredient, and very-hard of Digeſtion; its Oil muſt in Time pall the Appetite: It ſeems indeed to give an Appetite, but it is not a true and natural one, but occaſioned by its ſtimulating as it goes over the *Pylorus*, or lower Orifice of the Stomach: It is certainly too-ſtrong for us if made thick.

STRONG LIQUORS.—The Things I have yet to mention that ought to be cautiouſly uſed or avoided are ſpirituous or ſtrong Liquors, touching which Perſons err more than in all Things elſe in the World; I ſay, I know of nothing that the Generality are under ſo great a Miſtake about as ſtrong Liquors; and there is no convincing them of the Rock that they are about to ſplit upon: They are accounted our Comforts, our Support and Strength; whereas they are our Bane and Deſtruction, and introduce every Thing into the animal Œconomy deſtructive of its Functions. There is a latent Acid in ardent or burning Spirits, beſides the fiery Part, which is the merry-making or intoxicating Quality in all ſtrong Liquors, and which is a bitter Enemy to the Springs of Life: This Acid is evident from the following Experiments, *viz.*

Put an Ounce of Spirit of Wine into a Quart of pure Water, ſhake it, ſet it by for a few Days, and you have a ſour Liquor of Vinegar.

Or, let a Piece of Lead be laid in Spirit of Wine, which after ſome Time will have its Surface eaten or corroded, and a Ceruſs or White-lead will be formed; which Power of corroding comes from the acid Salt, one of the component Parts of the ſaid Spirit. Strong Liquors of all Kinds hinder Digeſtion, they being juſt of a reverſe Nature to what is neceſſary to it; they introduce a Lentor and Coagulum into the Blood, and impede or ſpoil its due Circulation; they ſubject the Drinkers to Cholics, and beget Polypuſſes. They thicken the Juices, and foul the Glands, and occaſion Polypuſſes about the Hearts of Seamen, who drink them in Quantity: Many are the Miſchiefs might be enumerated that are brought on by the Uſe of vinous Liquors; inſomuch that I am ſorry Nature has ſuffered ſuch a Change to be brought about in Vegetables, as their phlogiſtic Part to turn to a vinous Spirit by Fermentation.

Touching the different Kinds in Uſe we would likewiſe ſay ſomewhat, *viz.* The worſt Wines, no Doubt, are the thin, ſharp *Burgundy* Wines of *France*, the *Champagne* and *Rheniſh* of *Germany*; they abound with a crude Tartar, indiſſoluble to our Fluids, from their Acid being cloſely combined with their own *Terra* or Earth, which Tartar ſubjects the People of the Country to the Gout, Vetigoes, all the Kinds of Hæmorrhages or Effuſions of Blood, the Gravel and Stone; of the Nature of thoſe Wines alſo are the *Florence* and *Galicia*, and to be avoided alike: But, if a Man is reſolved to drink ſtrong Things, I adviſe him to drink Water with them, before them, or after them; for much-leſs Miſchief will ariſe this Way, than by letting them be in the Stomach alone. Oil of Vitriol is a good Medicine, diluted by Water, but Death alone. Spirit of Hartſhorn is excellent in Water, but likewiſe Death alone, which I have known to happen; as I have alſo from that mild and uſeful Medicine, *Salvolatile Oleoſum*. Sack is one of the ſtrongeſt of all Wines, 32 Ounces of which contain upwards of 3 Ounces of an ardent or inflammable Spirit. *Rheniſh* and ſome of the *French* are the weakeſt in Spirit. I wiſh there were no Adulterations in Wine any where! Some Time ſince a Man was beheaded in *Switzerland* for uſing Arſenic and White-lead to clarify Wines.

MALT LIQUORS.—Freſh ſmall Beer is a good Drink for moſt People; but the ſtrong

Beers and Ales of *England* are deſtructive to Health; nothing occaſioning a Dropſy ſooner: The moſt innocent of all ſtrong Liquors are the freſh and ſmaller Ales.

Punch is the worſt Compoſition or Liquor we make; it is prodigiouſly deſtructive to Health in many Reſpects: That with Lemons is worſe than that with Oranges. Somewhat of the Nature of this is the ſharp Cyder.

Drams.—I cannot mention theſe Doſes without Pain; they are the moſt-deadly of all Liquors. Drams are near as ſure Death as a Sword, tho' a little ſlower about the Work. The moſt dangerous is any Kind that is loaded with Saffron, which Saffron, in the Hands of a Phyſician, is of great Uſe in Medicine; but, if uſed too-freely, is a Fire: for it will raiſe Bliſters and corrode; and I know a Preparation of it ſtronger than any of the burning Cauſtic Surgeons uſe, and more-violent to the Fleſh than boiling Oil. Brandy and Rum are the moſt-hurtful in Reſpect of the great Quantity of ardent Spirit they contain, and compound Drams in Reſpect of the hot æthereal Oils they receive from the Ingredients they are compoſed of. In a Gallon of Brandy there are about two Quarts and a Pint of Spirit; in five Quarts of a made Dram there are but two Quarts of Spirit. *Geneva*, ſo much-eſteemed by the Vulgar, is a vulgar Compound, being the Product of 30 Gallons of Water, and 10 Gallons of Spirit, ſuch as we burn in Lamps, with a Quart of Oil of Turpentine, diſtilled together. It is an Error to think the *Hollanders* can make this Liquor better than we; theirs generally being done of *French* Brandy, which they have cheaper, and we uſing common Malt Spirits, occaſions the Difference; but give the *Engliſh* Operator Brandy, and he will outdo the *Dutchman*; for Diſtillation or the Manner of Compounding is much better known here than abroad.

THIS I have obſerved touching ſtrong Liquors: That, if a Man drinks any determinate Quantity of Wine, and at another Time Brandy diluted by Water, ſo as to have an equal Quantity of ardent Spirit and watery Parts in each, he ſhall find more Inconvenience from the Brandy and Water than the Wine; for the Brandy and Water cauſe the Cholic and a Pain in the Stomach, and affect the Head, which we may ſuppoſe to proceed from this Reaſon, that the Brandy having been rarified and raiſed in Diſtillation, (which Wine has not) its Spirit or Parts are in a more active, pungent State, and fitter to bring about the Uneaſineſs complained of. Our ordinary Sort of People are more addicted to Drams than any People in the World. Drams in *France* (except Brandy, which they are not fond of) are ſold dear, ſo that they come but little among them; and in *Holland* and *Flanders* it is not ſo common to ſee People drunk.

I DARE ſay my Readers will be ready to aſk, What Things may be uſed for Food, ſince ſo many have been prohibited? and that they will think, *Medicè vivere, eſt miſerè vivere*; but Things being taken right, I believe it will be found, *feliciſſimè vivere*; for after the improper Things for Aliments are ſubſtracted, there will be found a ſufficient Number remaining both to nouriſh and to pleaſe. Touching the Ways of Eating and Drinking, not only *Hippocrates*, *&c.* and others of the Ancients, have left us very good Directions; but the late worthy Dr. *Arbuthnot*, and that very eminent Phyſician of the *Bath*, Dr. *Cheyne*, have wrote admirably thereon, whoſe Works I could wiſh to be in every one's Hands.

ALL plain Meats then ſimply dreſs'd, no doubt, are generally good Foods, but the boiled is much more eaſy of Digeſtion than roaſted, whence better for weak Digeſtion: Of all Meats, Mutton is eaſieſt of Digeſtion. All Fowls likewiſe are good, tho' ſome of them are of a ſtronger Nature than others, which are generally known.

FISH likewiſe are proper Nouriſhment,

except the few that are known to diſagree with Perſons, as Sprats and Herrings: There are ſome indeed poiſonous in the *Weſt-Indies. Vide* Sir *Hans Sloane*'s Natural Hiſtory of *Jamaica*, *Cateſby*'s Hiſtory of *Carolina*, *&c.*

VEGETABLES, if boiled, are very good, ſuch as Beans, Peaſe, Parſnips, and the Herbs uſually in Uſe; the moſt innocent of all are Turnips; but a Man needs eat a good deal of them, they being full of a Juice amounting to little more than Water; for if twelve Pounds of them be laid in the Air, eleven Pounds will be carried off thereby; and that which is capable of going off ſo I believe would afford no Nutriment to us, if taken into the Stomach.

MILLET and RICE are very good, the laſt of which ſhould be well boiled if the Eater of it is ſubject to be looſe.

I AM ſpeaking here of what Perſons in Health may eat; when they are Ill, Phyſicians know beſt how to direct a Regimen. Touching the Quantity to be eaten, I am nor for directing Weight or Meaſure; ſome People muſt have more than others, eſpecially the working Sort, or thoſe who uſed much Exerciſe: In the Morning a few thin Slices of Bread and Butter, or a little of the Things made at the Paſtry-Cook's, without Almonds or hot Seeds, may be eaten, and a little Gruel, Whey, Barley-Water, Sage Tea not made ſtrong, Baum or Ground-Ivy Tea may be drank; but if the other Teas muſt be had, to uſe them ſmall, adding thereto Milk.

At Dinner let plain Things be eaten, and let them be dreſſed rather by a Cook of ſix Pounds a Year than ſixty: Alſo be it a ſtanding Rule to riſe with Room for a little more, and not to fill the Stomach too full; for then it cannot do its Office of Digeſtion ſo well, and when preſſing on the Diaphragma, it hinders the Play of our Lungs, and then we are made uneaſy in our Breath.

At Supper very little ſerves; any little Thing from the Paſtry-Cook's, not having in it Meat or any Thing of the animal Kind, does well; but the leſs the better: I am ſure we ſhall live the eaſier and the longer by this Rule.

Persons err prodigiouſly in their Notions about their Foods; they imagine it's impoſſible to have too much of ſo neceſſary a Thing as Victuals. The Deſire of pleaſing the Palate in us is very ſtrong: There are many of us who Live to Eat, and Eat to Die; we ride poſt with Life, and dig our Graves with our Teeth; that which ſhould preſerve Life to us bereaves us of it; ſtrange Error!

It is an Error to quit Meat, and take to Vegetables altogether, except in Caſe of the Gout, *&c.* for Meat or animal Foods are neceſſary once a Day for moſt People, at leaſt in the colder Climates; and, upon an Analyſis or Examination of Meat, and the Subſtance of human Bodies, they are found to conſiſt of the ſame Principles or component Parts, and are therefore proper for us.

I am ſtedfaſt in the Opinion, that Water and watery Liquors are the Liquors of Life. By watery Liquors I mean Barley Water, Gruel, Whey, Milk and Water, freſh ſmall Beer, Milk Water, *&c.* which are all proper Drinks. Water is the Liquor of the Univerſe; it's the Life of Animals and Plants, and ſhould be of Men, and the only true Digeſter: All ſublunary Things are Water and Earth; we are ſo ourſelves. It is a great Error to imagine ſtrong Liquors ſupport and comfort us; the Comfort is falſe, and but for a Time, and leaves a Poiſon behind: However, I would not rob thoſe of them on a ſudden who have been accuſtomed thereto; yet deſire them to believe, that the leſs they drink, the leſs Pain they will feel in Life, and the longer Life itſelf will be. This is my Opinion, and by theſe Rules I ſhall ſteer my Courſe. It has been known that Water has kept a Man alive twenty Days, namely, by diluting and affording a Serum to the *Maſſæ Sanguinis* to ſwim in or circulate.

Speaking here of Health, I would add one more Caution, though of a different Kind, *viz.* Not to ſuffer Children to be ſwung in a Swing by the Neck to make it longer, as is the preſent Cuſtom; for I have known Miſchief enſue from it twice, when one Child got a Tumour on the Cheſt, and another fell into ſtrong Twitchings as if convulſed.

Obſervations and Experiments on ſome Parts of the Materia Medica, &c. *whence will appear the preſent Miſtakes about the ſame.*

1. *Bole-armeniac* is held to be an alcaline Abſorbent, and truſted to as ſuch in Practice, which is a great Error, it being no ſuch Thing; for, being tried with all the Species of Acids, it lies quiet, making no Effervеſcency therewith. If acid Spirits be poured on *Bole*, they are drawn off again, having the ſame *Vis* or Strength as when they went on, which cannot be done from true Alcalis. This Subſtance on Part of the *Materia Medica* is ſo far from being an Alcali, that, if puſhed with a ſtrong Heat in Diſtillation, it gives an acid Spirit; for it contains an *Acidum Vitriolicum.* Moſt of

the *Bole* found in the Shops is only Pipe Clay and red Oaker ground up together.

2. *Terra Sigillata* and *Lemnia* are alſo accounted Alcalis, but are not ſo; which is evident from the ſame Experiments of trying with Acids, *&c.* as with the *Bole*: Moſt of theſe in the Shops of the *Falſarii* are Pipe Clay and Oaker likewiſe.

3. *Saffron*, in the Hands of a Phyſician, is, doubtleſs, of great Uſe, but dangerous to be played with: It contains a very active, pungent or corroſive eſſential Salt. I knew a Perſon, who made a Mixture of *Saffron* and Spirit of *Roſemary*, which he applied to the *Abdomen* of a Child, and the Part was greatly inflamed and excoriated; and worſe would have enſued, had not Means been uſed. If, after the Tincture of *Saffron* be made, the *Magma* or Preſſings be applied to the Skin of a Perſon, Bliſters will readily be raiſed; and *Johannes Weidenfeldius*'s Spirit of Wine will make an Extract of Saffron one of the moſt-violent Cauſtics in the World. A learned Phyſician informed me that a Man ſtole a Pound of Saffron in a Paper, which he hid in his Boſom next his Skin; ſoon after which he fell into an Apoplexy, and died. Other Authors ſpeak of the violent Effects of this Flower.

5. *Calcined Hartſhorn.*—There is nothing in the *Materia Medica* that Perſons err more

in than this Ingredient: It is monſtrous that any Writer, at all verſed in chymical Enquiries, ſhould dream that it is an Alcali or Abſorbent; for on Trial it will be found to be no ſuch Thing, and, indeed, without Trial a Man ſhould know that; for by Calcination the volatile Salt, Phlegm, Spirit and fœtid Oil are driven away, when there remains a dead Earth; and I hope nobody will aſſert the Exiſtence of a fixed Salt in animal Bodies. Some have ſaid they have found a fixed Salt in Blood after Combuſtion, which (if they did) muſt be in human Blood, and proceed from the marine Salt taken in with the Aliments; for Sea Salt is a *Salſum*, partly alcalious, and partly acid, which Acid being driven off by Fire, an alcalious Earth remains. But, to return to the Hartſhorn, which I ſay is no Alcali, nor of any Uſe in Medicine: It is one of the Ingredients of the good Wife's favourite *Gaſcoin*'s Powder, and continues in Families to be the Baſis of a white Drink truſted to in a Diarrhæa and Dyſentry, in which I am ſure it is of no Uſe, and I wiſh I could not ſay worſe Things of it; for, ſuſpecting this Subſtance, Oyſter-ſhells, Egg-ſhells, Coral and the like calcinated Things to be a Kind of Lime, I conſulted Dr. *Groſs*, a *German* Phyſician, at *Paris*, and one of the firſt Chymicus's in *Europe*, who confirmed me in my Opinion;

acquainting me that he had known burned Hartſhorn given for ſome Time to the Quantity of a Dram for a Doſe, and the Taker of it died thereby. It is true we often ſee the white Drink uſed without any Harm, becauſe it is ordered by the Receipt to be ſtrained, or the Hartſhorn is ſuffered to ſubſide, whence little goes down into the Stomach; for the boiling diſſolves none of it. In my Conferences with the firſt Profeſſor of the Univerſity of *Doway*, while there, I found this Ingredient not in Eſteem in *Flanders*.

5. *Diſtilled Milk* is thought by many to be no more than common Water, and therefore uſed by few in making the Milk Water; but that is an Error: for diſtilled Milk will make a ſmall Precipitation in a diluted Solution of Mercury, which pure Water will not do, which ſhews that it contains ſome volatile, animal Salt.

AGAIN, let diſtilled Milk be kept nine or ten Months, it putrifies, and a ſlimy Matter falls to the Bottom of the containing Veſſel, which being catched by a Filter, and dried, then put upon a red-hot Iron, it burns, glows and evidently ſhews a Phlogiſton or inflammable Part, exhibiting the Appearances of an *Animale quid* ſo treated.

6. *Plantain*, *Celandine*, *Eyebright* and the like cold, ſimple, diſtilled Waters are

thought by many to be no better than elementary Water; but, if kept a Year or leſs, they putrify, letting fall a *Mucus*, which, if ſeparated by the Filter, dried, and laid on a hot Iron, as in the laſt Experiment, exhibits the Appearance of a Vegetable when burning, which ſhews thoſe Waters are not ſo ſimple as conjectured to be.

7. *Cochineal* is now pretty generally known to be an Animal, or Kind of Lady Bird; but it is Matter of Wonder any heretofore ſhould doubt of it, or contend for its being a Berry, *&c.* for, do but put it into a coated Glaſs Retort, and ſurround it by Fire, you will have the ſame Spirit as Spirit of *Hartſhorn* a Phlegm, Salt and fœtid Oil, and remaining an Earth without Salt, which ends the Diſpute.

8. *Juice of Lemons* is diſtilled with the other Ingredients to prepare the *Treacle Water*, in order to have an Acid to excite Sweat, which is a great Error; for neither this Juice, nor that of *Verjuice*, nor *Seville Oranges*, come up ſour in Diſtillation, neither in the cold Still, nor *in Balneo*, where it comes to a boiling State; and for this Reaſon: That they have not yet undergone the laſt vegetable Putrefaction, which Vinegar has done, and for which Reaſon it riſes ſour in Diſtillation; though a great Part of the Acid of Vinegar remains behind when diſtilled,

ſtilled, which is eaſily perceived by taſting the Remainder, which is very pungent to the Taſte; and, on trying diſtilled Vinegar with Vinegar undiſtilled, the laſt will be found more ſour than the firſt.

9. *Mercurius Vitæ*, or the *Emetic Powder* of *Algarot*, is thought to be *mercurial*, and uſed as ſuch; however it is not ſo, but *antimonial*, and the *Cinnabar* of *Antimony* made of the ſame Ingredients is the *Mercurial* Medicine; the Caſe ſtanding thus: The two Ingredients are *Sublimate* and *Antimony*, the Salts of the *Sublimate* join the reguline Part of the *Antimony*, and form the *Butter*, of which the Powder of *Algarot* is made; and, on the other Hand, the Sulphur of the *Antimony* joins the *Mercury* of the *Sublimate*, and forms the *Cinnabar*.

10. PHYSICIANS are apprized of what little Value *Bezoar Stone* is; but the good Wives and Nurſes yet continue its Uſe, notwithſtanding they give an Ounce and an half of Gold for an Ounce of it. I am convinced it is a Whim, for which we may uſe *Crabs Eyes* mixed with a very little grated *Nutmeg*. The renowned Profeſſor *Boerhaave* ſays of it, *Laudatur quia pretioſus*.

11. *Laudanum Liquidum* affects People's Heads, and begets *Nauſeas*, eſpecially if given in a larger Doſe, as it is particularly requiſite after cutting for the Stone: The

following does better: Take an Ounce and Quarter of Opium, cut it ſmall, put it into Half a Pint of common Water diſtilled, letting it remain therein 24 Hours, often ſhaking it, then philter it, and add thereto three Ounces of Spirit of Wine, it's done; by which Proceſs you avoid the reſin or ſulphurous Part, which is what makes the Medicine offend. Thoſe, who approve of adding the other uſual Ingredients of the *Laudanum* for Correction, *&c.* may do it when the Spirit of Wine is added, and then digeſt.

12. HAVING heard ſome aſſert, that the *Aqua ſpermatis ranarum* contained in it a volatile, animal Salt, I made a Solution of Mercury in Spirit of *Nitre*, diluting the ſame by diſtilled common Water, into which I poured *Frogs Spawn Water*, which made no Precipitation, and which I tried both with new *Frogs Spawn Water* and with old; whence I found it a Miſtake, it being only a phlegmatic, ſimple Water, and whence I doubt, that a Diſtillation in the ſame Manner from *Snails* and *Worms* would be of no great Uſe in Medicine; whereas Decoctions of them prudently managed might.

13. It is aſſerted by moſt that *Ants* afford an acid Spirit in Diſtillation, and that being infuſed in Water, they communicate a Sour-

neſs thereto, ſo that the Infuſion will effer- veſce with Alcalies; whence they conclude this Animal to differ from all others, the reſt of the Creatures giving an alcalious Spirit: But, if this Matter be better examined into, we ſhall find that this Acidity is not a Part of the Animal, or one of the Principles of which he conſiſts; but proceeds from what he carries on his Thighs and Legs, a vegetable Production; and that, if this Creature be cleared of that adhering Matter, and then diſtilled, *&c.* an alcalious Spirit will be obtained as from other Animals.

THE *Bee* likewiſe carries about the ſame Parts, his Products, which are wholly vegetable, *viz.* *Wax* and *Honey*.

Philtre Whey gently exhale a Part; ſet it in a Cellar, it cryſtallizes, and you have a Salt; exhale again, you have more: This Salt is the nitrous eſſential Salt of the Graſs eaten by the *Cow*, joined to an animal Mucus, and which, being committed to Diſtillation, gives a Phlegm, a ſmall Volatility, a little fœtid Oil, and at laſt a ſmall Acid; and this Salt the *French* grind with crude Mercury, as others do with *Crabs Eyes*, which they chuſe to do, as believing *Crabs Eyes* may foul the Glands of the Stomach, or clog the Mouths of the Lacteals, which, they ſay, this Salt will not do. The *French* adviſe it in Conſumptions; but I cannot ſee how any Thing that incides or divides can be good in ſuch a Caſe; which I refer to the better Judgment of our Phyſicians, who, I am very ſure, excel and go deeper into Things than any in the World; as do our Surgeons too, notwithſtanding the great Opportunities the *French* have; and, I believe, I may ſay the ſame of my Countrymen, the Apothecaries.

THE Proceſs of making the Præcipitate *per ſe* being very tedious, and I hearing a *French* Phyſician ſay, that it might be done by frequently diſtilling the crude Mercury, I put Mercury into a Retort, and diſtilled it up many Times, when it came up as fluid the laſt Time as the firſt; whence I found the *French* Gentleman had not worked thereon himſelf; and that there is no other Way but by giving it Time, and dividing by Pebble Stones.

Pulſatilla, being diſtilled with Water, riſes white, and catches the Noſe when ſmelled to, and, if kept ſix Weeks, lets fall a Salt, which is not diſſolved by Acids nor Alcalies, and hardly by warm Water.

TALKING with Dr. *Cantwell*, at *Paris*, about the Poiſon of the Laurel Water, he aſſerted, that the Water of the *Laurus triumphalis* or Bay is an Antidote againſt that Poiſon, which I ſhall try at Leiſure, as others

thers may do. *Quære*, Does it not act by conſtipating the Lungs? My ingenious Friend, Dr. *Rutty*, has laid down, that Milk is an Antedote againſt this Poiſon, and indeed it has ſo been aſſerted to the Royal Society at *London*. The Yew Tree not being generally known to be poiſonous, I acquaint my Readers that it is ſo: Two Examples have been known of Horſes eating thereof, and fell dead. Oleander is poiſonous.

OUR Phoſphorus being given internally, it had no other Effects than occaſioning a great *Crepit*, *Ventris* or breaking Wind downwards.

THE æther or æthereal Spirit, being taken internally by Miſtake, prodigiouſly diſordered a Man, flung him into Vertigos, and made him ill for three Months; he ſaying (to uſe his Words) he thought himſelf bewitched, and did not know how to deſcribe his Diſorder: But fifteen Drops were taken.

UPON Myrrhe by a *French* Phyſician, *viz.* Take the beſt Myrrhe, diſſolve it in a *Lixivium* of Pot Aſhes, then diſtil with Water in a ſmall Alembic, or a Retort placed in Water, and you will have a ſmall Portion of a chymical Oil, which will have the natural Smell of Myrrhe. The ſame Gentleman upon Jalap: Take Jalap, make a Tincture in Spirits of Wine, precipitate that Tincture by Water; when the Reſin is ſunk, exhale that Liquor to an Extract, which Extract will purge ſtronger than the Reſin of Jalap itſelf. Again, if you draw a Tincture from the ſaid Extract with Spirit of Wine, that Tincture will not be precipitated by Water. Again: Take Opium, make a Tincture in Spirit of Wine, exhale it gently to an Extract, diſſolve that Extract in diſtilled Water, which perhaps will not take in more than the fifth or ſixth Part, which Liquor will be as ſtrong again as the firſt Tincture, and will not be precipitated in an aqueous nor a vinous Menſtruum: Theſe on Myrrhe, Jalap and Opium I have not tried.

AMBER prepared is accounted an Alcali or Abſorbent, which is as great an Error as that about Bolearmoniac, *&c.* for, upon all the proper Trials, it will be found not to be ſo. If we take it to Pieces by a chymical Analyſis, we meet with an acid Spirit and an acid Salt: This Ingredient is a Bitumen of a Texture or Make that cannot be altered or worked on by the Stomach; and indeed we find it difficult to diſſolve it by any Menſtrua but the Æther. It is of no Uſe in Medicine in a crude or levigated State.

An Obſervation; a Man at *Rotterdam* went into a Druggeſt's Shop, where he called for Half a Pint of Oil of Turpentine, and deſired the Shopkeeper to lend him a Glaſs, which having received, and put the Oil thereinto, he drank half of it, and went away, deſiring him to let it ſtand a little; and, returning in Half an Hour, drank the reſt: after which Doſes he was frequently ſeen in the Streets, which was a Surpriſe to the Phyſicians, and indeed to myſelf: It was not known whether he went and drank Water.

Since I came to *England* I mentioned this to an eminent Phyſician, who acquainted me that he knew half a Pound drank by a Man, who was only ſtrongly purged thereby.

An Obſervation; *Elixir Vitrioli* is an admirable Medicine, but, as managed in the Diſpenſatories, is ſpoiled by the too-great Quantity of Oil of Vitriol; for they order above as much again of the acid Oil as is neceſſary, which, inſtead of preſerving the æthereal Oils or fine Parts the Ingredients have to afford, burns or calcines them to a Coal. *Quincy*, a good Judge of the *Materia Medica*, orders Spirit of Vitriol, and Oil of Vitriol, which muſt be a Blunder of the Printer, as muſt the next Proceſs for the *Tinctura Stomachica Amara*, where Spirit of Vitriol is alſo directed; he ſurely intending Spirits of Wine, which, if he does in the *Elixir Vitrioli*, he errs in ordering a Pound of Oil to a Pound and a half of Spirit of Wine, which is too-much of the Oil; for half a Pound of Oil is enough for four Pounds of Spirit of Wine: Into this ſame Error does *Staphorſt* run, who certainly was a good Chymiſt.

An Obſervation; *Ens Veneris* is ordered in the Diſpenſatories to be made of Salt of *Steel*, or *Vitriolum Martis*; but I would willingly know how then have we an *Ens Veneris?* Which Difficulty is endeavoured to be cleared in *Quincy*'s in vain. The Truth is, we ought to uſe *Caput Mortuum* of *Dantzic* Vitriol, the Baſis of which Vitriol is Copper. Others direct blue Vitriol; but this will not make the Medicine red, which is expected to be. *Staphorſt*, the quondam Operator at *Cambridge*, and at *Apothecaries Hall*, runs alſo into this Error.

An Obſervation; *Millepedes*, or *Hog Lice.* It is the Cuſtom among many People to roll theſe Creatures up like a Pill in their Hands, which is eaſily done, and ſwallow them alive for medicinal Uſe, which a Woman having done, the next Day ſhe was very uneaſy in her Stomach, of which ſhe complained to a Surgeon, who, after ten Days ſwallowing the Creatures,

gave

gave her an Emetic, when the *Hog Lice* came up alive together with the Vomit; whence we ſee it is improper to ſwallow ſuch Animals alive.

ONE of the firſt Surgeons of *Dublin* had a Woman under Cure for a Caſe, in which ſhe likewiſe ſwallowed live *Hog Lice* unknown to him; which Woman dying of the Caſe ſhe was under, and being opened, the ſaid Creatures were found alive and crawling in her Stomach; which Account I relating to Dr. *Renaud*, Phyſician to King *Staniſlaus*, he told me he ſaw a Boy take a *Scarabæus Roſaceus*, or *Roſe Beetle*, which he wrapt up in *Butter*, and gave to a Dog, who ſome ſmall Time afterwards began to ſtare and look wildly about him, turning his Head about ſeveral Times, as if he heard a Noiſe; when on a ſudden he ran furiouſly away, and was miſſing the whole Day; and returning at Night, he was almoſt fatigued to Death with running, which he had done to get rid of the Uneaſineſs in his Stomach, occaſioned by the Creature's crawling there with his rough Feet.

Lapis quadratus Luſitaniæ; or the four-ſquare Stone of Portugal. This, being chymically examined, appears to be a Pyrites of Iron, and being powdered, and the Magnet held over it, it attracts it: Again, if diluted *Aquafortis* be poured upon it, and ſuffered to lie there a little while, and again diluted when it comes off, and then introduce into this Liquor powdered Galls, you have a purple Tincture or Colour, ſuch as martial Liquors uſually afford: This Mineral is likewiſe found in *Saxony* and *Miſnia.*

THERE are uſually found upon Turnips little Hillocks or Excreſcences, in every one of which there is a Kind of Inſect or Worm, ſo that it is beſt to fling thoſe Parts away whenever we dreſs them for eating.

HAVING about three Drachms of *Aurum Fulminans* lying upon a Balneum Heat, I went to it next Day to ſee whether it was dry; when, thinking all Things were grown cold, I began to unwrap the Paper to view it, when it inſtantly exploded with a terrible Noiſe, and exhibited a Flaſh of Light, which is a Phænomenon I have not heard taken Notice of by others: This Exploſion of the thundering Gold hurt both my Eyes, occaſioning a great Flux of Blood to them: It alſo gave a great Contuſion to my Hand, by ſtriking its Force downwards, which is contrary to the Aſſertion of others who write upon this Subject, and ſay that it only gives its Force upwards or ſideways.

A MAN brought a certain Mixture to a Chymiſt in *London*, which he deſired to have diſtilled, when the Servant, in the Abſence of the Maſter, took it in to work upon, and, which he having ſet doing according to the Orders he had received, went to Dinner; in the mean Time the Mixture blew up with a terrible Noiſe, breaking the Veſſels, and was almoſt like to blow the Chimney down, which the Maſter of the Laboratory coming to be acquainted with, enquired of the Perſon that brought it, what it might be? who anſwered, that it was a Mixture of Honey and Nitre: So that, tho' Nitre alone is not inflammable, yet the Sulphur or phlogiſtic Part of the Honey had afforded Fuel to it, whence a Kind of Gunpowder was formed. This is inſerted, to guard others againſt working on the like Subjects in the ſame Manner.

If a *Frog* be put into a Box, and Holes bored therein, and the ſaid Box laid near a Neſt of *Ants*, the *Ants* will entirely diſſect the *Frog*, and make the fineſt Skeleton poſſible of him, leaving even the Ligaments unhurt. If a *Mouſe* be put into the ſame Box, and his Skin taken off, theſe little buſy Creatures will make as fine a Skeleton of him too; but, if the Skeleton be left with them long, they will likewiſe go to work upon the Ligaments.

The yellow Matter or Subſtance caſt out of *Mount Veſuvius* in *Italy*, and ſold in the Colour Shops by the Name of *Naples Yellow*,

low, is a Kind of Ocre, and upon an Analyſis affords a ſmall Quantity of Iron.

CRUDE Sulphur and Quick Lime being mixed together in about equal Parts, and put into a Veſſel, and covered with Earth, will in no long Time afterwards burſt out into a Flame, and fling up the Earth: This I had of a *German* Phyſician; I have not tryed it: May we not hence account for Volcanos and Earthquakes?

IT was proved at *Paris*, that the Head of a *Viper*, 24 Hours after being ſevered from the Body, did bite a Man, ſo as to occaſion the uſual Symptoms, and which happened to an *Apothecary*'s Journeyman there. This is a Creature of prodigious Life and Vigour; for after the Head is taken off, and the Skin and all the Viſcera taken out, the Body will ſtrongly vibrate or move in a String fourteen Hours after that.

MUSTARD SEED gives a Phoſphorus, which is a Phænomenon few would expect.

BLACK gliſtering Writing Sand. This being chymically examined appears to be a Minera of Iron.

HAIR POWDER is often adulterated or mixed with Lime, which, if ſo, will be diſcovered by this Experiment, *viz.* Put a little powdered, crude *Salarmoniac* to the ſuſpected Hair Powder, adding a little warm Water to the Mixture, and ſtir it about, when, if it was adulterated with Lime, there will be perceived a ſtrong Smell of *Salarmoniac*, becauſe the Lime will volatize the *Salarmoniac*, from the known Reaſon of its receiving into itſelf the Acid that held the volatile Salt, which is then ſet at Liberty.

It has been aſſerted by ſome, that all acid Spirits may be reduced to elementary Water by repeated Diſtillations, but I believe this to be an Error; for being diſtilled an hundred Times, they came up acid to the laſt.

Rain Water, being catched in Glaſs, and not ſuffered to come near any vegetable Subſtance, or Veſſel of Wood, will keep good 40 Years, which has been experienced; and it is thought would do ſo longer.

Distilled Water, being likewiſe kept in Glaſs as aboveſaid, has been found to keep good 10 Years; and, I doubt not, would keep a great while longer. *Briſtol* hot Well Water was kept 5 Years and a half, and good.

Eggs, being placed under a running Water in a Rivulet, have been found to be good and eatable two Years afterwards, and which being put under a Hen produced Chicks. Eggs, being alſo covered with a proper Varniſh, will be good a Year afterwards, and, if laid under the Hen, produce Chicks likewiſe. The Varniſh above is of Bees Wax, Turpentine and Colophoney, melted together. Melt Bees Wax; dip the Eggs therein, which adhering to them, they will be preſerved a long while ſo. They are kept at Sea by a Lay of Salt 3 Months; but leſſen ſomewhat in their Bulk, which may proceed from the Salt's partly diſſolving or cutting the Shell, whence the Moiſture gets an Exit. Put an Egg for one Minute into Water juſt about to boil, it will not then be hard, and will keep well a Month. Lay one a very little while in ſweet Oil, it keeps half a Year. If a Hen feeds on Hemp or Flax Seeds, the Eggs will ſmell and taſte of them. The White of an Egg will be hardened by the Pocket.

BITTERS are ſeldom found to riſe in Diſtillation; but ſome Kinds of the Colocinths have been proved to give a bitter Taſte in Diſtillation.

GALL Stone is prodigiouſly ſulphurous; for it ſwims on Water, and burns like Camphire, whence it differs from the Stone in the Bladder.

ON Toads, by the late Baron *Shack*, Envoy of *Muſcovy*: Take three or four live Toads, put them into a Bag, add thereto three or four Pounds of Kitchen Salt, ſhake them about 'till the Toads are dead; a little of this Salt he aſſerted is a violent Poiſon.

This Gentleman alſo aſſerted, that a Countryman being aſleep upon the Ground, with his Boſom open, a Toad crept upon him, and lay upon his Breaſt, which Part afterwards was very much inflamed: which Things, if Fact, prove ſome Toads, at leaſt, poiſonous, tho' denied by many Naturaliſts.

Acid Spirits.—To concentre and render them of a double Strength, take *Lapis Calaminaris*, powder it, and pour any acid Spirit upon it you have a Mind to make your Experiment on; diſtil gently; there comes over a Phlegm, which take away, and add thereto another Receiver, puſh the Fire, and there will ariſe the heavy acid Spirit much ſtronger than before.

On Glaſs.—To reduce Glaſs again, take Salt of Tartar or Pot-Aſhes three Parts, add to it one Part of melted Glaſs, expoſe it to the Air, and it is no more Glaſs; its Earth may be precipitated with Vinegar. This was aſſerted by a *French* Phyſician; I have not tried it.

A Spirit prodigiouſly volatile.—Take double *Aquafortis* one Ounce and a half, Quickſilver an Ounce, let it diſſolve, and ſtand 'till it is near cold, not quite, for fear it ſhould chryſtalize; then put to it two Drachms of the beſt *French* Spirit of Wine, ſhake it about 'till it looks milky, and there will be perceived upon the uppermoſt Part a Kind of Oil, which you muſt nimbly ſeparate by a Glaſs Funnel, by ſtopping the Steam with the Thumb, and withdrawing it a little, you let out the lowermoſt Liquor 'till you come to the uppermoſt, which is what you want, and which muſt be conveyed into a Bottle with a Glaſs Stop, or elſe it will be gone: if you don't ſucceed the firſt Time, you muſt try again 'till you do. This Spirit or Oil is ſo volatile, that a Drop, being let fall from the Height of 5 or 6 Feet, does not go to the Ground, or, if a Drop falls on your Nail, you'll ſee it riſe into the Air. This Preparation is more volatile than the æthereal Liquor.

A Spirit that is always in a fermenting State, or in Motion.—Take two Ounces of Block Tin, diſſolve it in *Aqua Regia*; take alſo an Ounce and a half of thin hammered Lead, diſſolve that in *Aquafortis*, mix the two Solutions, add to them an Ounce and a half of Antimony, and two Ounces of Mercury, put them into a Glaſs Retort, join a Receiver, lute it, leaving a Pin-hole in the Lute, diſtil, there comes over a white Spirit, which muſt be kept in a Glaſs with a Glaſs-ſtopper, ſo as to be but half full, to give it Room to move. To hammer Lead thin you muſt do thus: Put many Pieces of Lead one upon another, ſo beat it out, then you can diſſolve it, otherwiſe not. Written to be by a *German* Chymiſt; I've not tried it.

To receive Mercury without Diſtillation. ——Take *Sublimate*, add to that an equal Weight of Filings of Steel, pour thereon a Quart or more of Water, boil it, and, before the Water is boiled away, you'll ſee the Mercury running.

A Diſcovery of ſome of the moſt-flagrant ill Practices in Medicines and Drugs, &c.

Flowers of Sulphur.—This is often vulgar Roll Brimſtone powdered, which itſelf is an adulterated Thing, and ſuch as Matches are made of, and having Spirit of Vitriol added thereto, which a Patient of an Apothecary (a Friend of mine) having taken, he had like to have loſt his Life from the Sharpneſs thereof.

THIS will be diſcovered thus: Pour warm Water on the falſe Sort, and the Sourneſs will be taken out by it, and the Water, when ſeparated from it, will be acid, which will not be the ſame with the true.

AGAIN, let a Gallipot be filled with the true, and, when emptied out, let the ſame be filled with the falſe; then weigh both, and the firſt will be found much lighter than the laſt. We know that Flowers of Sulphur ſhould be a little more acrid than beaten Brimſtone, becauſe its innate acid Spirit is rarified in ſome Meaſure by the Heat the Sulphur receives to raiſe it into Flowers; but that Acidity is ill imitated by our *Falſarii*.

Album Græcum.—This we know ſhould be Dog's Dung, a Thing eaſy to be had, which, on Examination, I have found to be Lime and Hair made up in that Form; which Fraud will be diſcovered thus: Let true *Album Græcum* be diſtilled in a Retort by a good Heat, it affords a volatile Salt, a Spirit and Phlegm.

THE falſe Salt will afford nothing but a little that the Hair gives: The true being put on an hot Iron, it gives a copious white Fume for a long Time, which is the Exhalation of the aforeſaid Principles. The Lime and Hair will give but little Fume in Reſpect to the other, for nothing comes from the Lime.

LET an Ounce of the falſe Sort be rubbed in a Mortar with half an Ounce of crude *Salarmoniac*, adding to it a little warm Water, the *Salarmoniac* will be rendered volatile, and a ſtrong Smell perceived; which will not happen on mixing the true with the *Salarmoniac*.

Black Cherry Water.——This is imitated by a ſhocking Practice indeed, *viz.* by diſtilling Laurel with Water, the direful Effects of which we have had Inſtances not long ſince, both here and in *England.* I gave only three Drachms of the ſaid Water of Laurel to a Dog a Foot high, who was inſtantly ſtruck dead. This dangerous Water will eaſily be diſtinguiſhed from the right by its Taſte and Heat, and from its having an Oil floating about it, which true Black Cherry Water has not. It has likewiſe a prodigious ſtrong Scent, as it were, of Kernels, whereas that of Black Cherries is very weak in Reſpect of it.

The next Imitation of this Water is by diſtilling bitter Almonds in Water, which tho' it is not giving an hurtful Thing in the delivering a *quid pro quo*, yet it is letting the Patient go without what the Phyſician deſigns. By this laſt Way is almoſt all the preſent *Ratifie* made.

Syrup of Violets.——This is done by our Artiſts of Logwood that the Hatters dye Hats withal, of coarſe Sugar and Water, which will be diſcovered thus: The true Syrup will have the Smell and Taſte of Violets, which that of the Logwood will not. The true will anſwer the uſual Trials of turning green when joined to an Alcali, and red with an Acid, which the falſe will not.

The true will not grow black with the other Ingredients of the Hatters Dye, as that of Logwood will. Thoſe with Conſciences as bad do it by diſtilling a Water from Orris Roots, and then hang in it a Bag of Indigo, then ſweeten: Indigo has a noxious Quality.

Oil of Anniſeeds.—This is uſually brought from *Tyrol*, and, when here, is mixed with half its Weight of Rapeſeed-Oil or other mean Oil, and to make it candy in the Winter ſome baſe Parmacitty is added thereto, which Frauds are thus diſcovered: If true Oil of Anniſeeds be dropped on white Paper, and held near the Fire, the Oil will riſe off, ſo as to leave the Paper near clean: But if the ſame Trial be made with the falſe Sort, the Paper will remain very greaſy; becauſe the baſe Oil in it and the Parmacitty cannot riſe off by the Heat that is given.

Again, true Oil of Anniſeeds being dropped into Spirit of Wine, it is diſſolved thereby: But the falſe makes the Spirit grow whitiſh, and look thick, becauſe the Rapeſeed Oil, or others mixed with it, refuſe to be diſſolved by the Spirit.

Again, let a Pound of good Oil be put into the Alembic with Water, and diſtilled, it all comes up; let the ſame Weight of the other be put there, perhaps not above half a Pound is had; becauſe the Sperma and

Rape-Oil cannot riſe by that Manner of Diſtillation.

Crabs Eyes.——Theſe are a uſeful Part of the *Materia Medica*, and often uſed, ſo that it is Pity we ſhould not be ſupplied with the genuine Thing: They are imitated by making up Pipe-clay in the Form of *Crabs Eyes*, which Clay is no Abſorbent, nor of any Uſe in Medicine: of which, if we ſpeak to our ſophiſticating Artiſts, they will tell you they give nothing hurtful in the Subſtitution. But, if a Patient dies for want of the Medicine intended by his Phyſician, I would know how far ſhort of poiſoning him this falls? The Fraud is diſcovered thus; ſtrike on the true Thing with an Hammer till it breaks, and obſerve the Surface within, which looks like poliſhed white Marble; the adulterated looks rough, as it were a Powder ſtuck or caked together.

AGAIN, pour any acid or ſharp Liquor on the true, a great Effervеſcency or Stir is ſeen; pour the ſame on the falſe, all lies quiet.

AGAIN, diſtil the true in a naked Fire, they give Principles inherent to animal Bodies; diſtil the falſe, they give nothing if dry. Pour diluted *Aq. fort. ſimpl.* on the powdered *Crabs Eyes*, they are diſſolved thereby, and converted into a Kind of Salt, which does not happen with the falſe. It is ſcarce needful to acquaint thoſe not converſant in Phyſic that they are not the Eyes of the Crabs.

Salt of Amber.—This Medicine is of great Conſequence in the Practice of Phyſic, and none more adulterated than it: It is imitated by the modern ſophiſticating Artiſts by mixing or gently grinding common or crude *Salarmoniac* with the browner Oil of *Amber*, which Fraud is thus detected: True *Salt* of *Amber* will be diſſolved in Spirit of Wine; the falſe Sort juſt mentioned will not, nor will any other Salts in Uſe but *Terra foliata tartari*, and corroſive *Sublimate.*

If the falſe be mixed with quick Lime, and a little warm Water be added thereto, ſtirring all about, a ſtrong Smell of volatile *Salarmoniac* will be perceived, which will not happen with the true.

Spirit of Harts-Horn.—This is much adultered, as thus, *viz.* ſome of theſe Artiſts are baſe enough to make a Spirit out of Horſe's Bones, or any other Bones that they can cauſe to be picked up.

Others mix Lime and crude *Salarmoniac* together, grinding therewith a few Drops of fœtid Oil of any Bones, and pouring warm Water thereon, by which Proceſs the *Salarmoniac* will be rendered volatile by the Lime, and ſo it will catch the Noſe;

but the acid Part of the *Salarmoniac* will be diſſolved as well as the alcaline, ſo that it is not the Medicine we expect. This Fraud will be diſcovered thus, *viz.* Put true Spirit of *Harts-Horn* into a Cucurbit or Retort, place the ſame in a Water-heat, the Spirit will all riſe.

Put the juſt-mentioned falſe Spirit into the ſame Veſſels, diſtil, ſome volatile Salt and the Water will ariſe, and the acid Part of the *Salarmoniac* will remain behind.

Salt of Tartar.—— For this we uſually have given us only powdered Pearl-Aſhes, or Pot-Aſhes. The Fraud is known thus, *viz.* True *Salt* of *Tartar* is totally diſſolved in Water; Pearl Aſhes, *&c.* will leave about a fourth Part undiſſolved: If they diſſolve the Pearl Aſhes, philtre and exhale, and give us that, the Salt remaining will be whiter than true Salt of *Tartar*, and be more pugnant to the Taſte than it.

Sal. Mirabile.———The true Sort is now ſeldom made; what is vended is only the common *Epſom* Salt in larger Cryſtals, done where Kitchen Salt is made near the Sea: This is eaſily diſtinguiſhed by the Taſte, the true having a vitriolic Taſte on the Tongue, and the falſe a bitter one like the *Epſom* Salt. Or diſſolve the true in warm Water, ſet it in a Cellar it ſhoots into Cryſtals; proceed in the ſame Manner with the falſe, it does not give thoſe Cryſtals; becauſe it wants the Acid of the Oil of *Vitriol*, one of the Ingredients of the *Sal. Mirabile*, and which is neceſſary to form Cryſtals; and becauſe it has in it too much of the alcaline Part of the common Salt; for Alcalies run not into Cryſtals.

Salt of Wormwood, Salt of Broom, of Chamomile, of Juniper, of Aſh, and the like vegetable Salts. - For theſe we uſually have given us only powdered Pearl-Aſhes or Pot-Aſhes, or theſe diſſolved, philtred and exhaled to Dryneſs; the Frauds are thus detected, *viz.*

THE true Salts are totally diſſolved by warm Water; the falſe above-named will leave a Fourth-part undiſſolved; the falſe are very white, the true are brown, unleſs they are put into a Crucible, melted, and then diſſolved, and philtred, and the Water drove away till they are dry: Which if they are ſo treated, they will become more ſharp or pungent to the Nerves of the Tongue than they ought to be.

Sperma Ceti.—This is very much adulterated, and chiefly by mixing with Tallow, which is eaſily perceived by giving it a Friction between the Fingers and the Thumb, and holding it to the Noſtrils, which will have the ſame Smell as if we rubbed our Fingers on a Candle; whereas the true

Sperma ſo tried has a clean and grateful Scent.

AGAIN, the falſe *Sperma Ceti* will ſoon turn yellowiſh; whereas the true will keep white much longer.

Præcipitatum Rebrum, or *red Precipitate.* —This is uſually adulterated by mixing red Lead with it; whence this cannot have the ſame Power for a Surgeon's Uſe as the true. The Fraud will be diſcovered thus, *viz.* by converting the *red Precipitate* into running Mercury or Quick-Silver by the proper Operations (as all Mercurial Preparations may be done) when more Mercury will be obtained than from the falſe.

AGAIN, by adding a proper alcalious Matter to the falſe Sort, and diſtilling off the Mercury, and then, by treating he Remainder with a proper Flux, the Lead will be had from it.

Native Cinnabar.—This is uſually adulterated by mixing with it red Lead, ſuch as the Pencils ar made of, and not the ſame as juſt now mentioned with the *red Precipitate*, which is made by Fire. This Fraud is diſcovered by much the ſame Experiments as in the laſt Article.

ALL the purging Medicines in general are likewiſe baſely prepared by ſome; for Example, *Electuarium Cariocoſtinum* ſhould have in it, for its Purgative, *Scammony*; inſtead of which we have given us *Gumboge*, which is an Ingredient rarely or never now preſcribed by Phyſicians.

Electuarium Lenitivum ſhould have in it Leaves of *Senna*; inſtead of which *Gumboge*.

PURGING Spirit of *Scurvey-Graſs*, likewiſe *Gum-boge*, inſtead of uſing *Jalap* and *Scammony*, directed by the Diſpenſatory. It is indeed difficult to diſtinguiſh the Fraud in the Electuaries, where there are ſo many Ingredients blended together; but whoever takes ſuch adulterated ones will ſoon find the Effects in his Health. But as to the Spirit of *Scurvey Graſs*, the Fraud may be known by dropping it into Water, when that with *Gumboge* will give a very yellow Precipitation, whereas the right will give a white. Inſtead of the various Spices that Medicines ſhould have, *Jamaica* Pepper, forſooth, muſt ſerve for all by our Artiſts. If it be not amiſs in this Place we will inſert that the dried Leaves of *Scrophularia Aquatica*, two Drachms of it infuſed with as much *Senna*, takes off its ill Taſte and Smell.

Peruvian Bark.——This is a Part of the *Materia Medica* that is extremely neceſſary, but much adulterated, eſpecially for the Uſe of the Country (for there goes a Cant-Word *Country-Goods)* whither there goes many

Hundred Weight of Oak Bark dyed in the Dyer's Dye-Pot.

THE Fraud is eaſily known by breaking a Piece of true Bark, and a Piece of the falſe, and ſmelling thereto; likewiſe by taſting them both; alſo by breaking the falſe and obſerving the Inſide, which will not look the ſame as the Outſide; and laſtly, by filling a Gallipot with the Powder of the true, and then filling the ſame with the Powder of the falſe, and weighing them both afterwards, when the true will be found much lighter than the falſe; neither will the falſe give a Reſin like the true.

Tartarus Vitriolatus.—For this Medicine I have ſeen common *Saltpetre* ſerved; this Fraud is eaſily diſcovered thus, *viz.* by the Taſte, and likewiſe by putting a little of each into the Fire, where the *Saltpetre* will burn or deflagrate, and the true *vitriolated Tartar* will not.

Diaphoretic Antimony, and Ceruſs of Antimony.— For theſe Medicines the Buyer often receives Chalk: It's known thus, *viz.* Pour an Acid on either of the genuine Medicines, all lies quiet: Pour the ſame on Chalk, a great Stir or Effervеſcency enſues; the true Medicines will not be diſſolved by Spirit of *Vitriol* or the like Acid; Chalk can be diſſolved. *Diaphoretic Antimony* or *Ceruſs* may be turned back again to *Regulus* of *Antimony*, or to *Antimony* itſelf, by chymical Proceſſes: Nothing is had from Chalk.

Spirit of Turpentine, called the Æthereal Oil.—For this we ſeldom receive any thing but the common Oil of *Turpentine*. It's known thus: Mix Spirit of *Turpentine* with Spirit of Wine, tho' it is not diſſolved or does not unite therewith like æthereal or chymical Oils, yet it does ſo better than Oil of *Turpentine*, for that occaſions a great Whiteneſs, or makes a troubled Mixture. Drop two or three Drops of Spirit of *Turpentine* on white Paper, and the ſame Number of Drops of the Oil, holding both to the Fire; when dry, that with the Spirit will look clearer than that having the Oil.

Again, put a Pound of Spirit into the Alembic with Water, diſtil, all comes up clean; diſtil as much of Oil, a reſinous or pitchy Matter is found floating in the Still.

Chymical Oils are ſadly adulterated, ſome are mixed with Sallad Oil, ſome with Linſeed Oil, others with Spirit of Wine. If with the ſaid Oils, you diſcover the Cheat thus: Mix genuine Oil of Cloves or the like with Spirit of Wine, it is clear. Mix Oil of Cloves adulterated, as ſaid, with Spirit of Wine, it becomes thick, or looks troubled, becauſe the expreſſed Oil in it refuſes to be diſſolved by the Spirit of Wine.

DROP true Oil of Lavender, *&c.* on white Paper, hold it to the Fire, it is exhaled, and the Paper remains clean. Make the ſame Experiment with the falſe Oil, the Paper is left greaſy. Diſtil true Oils with Water in the Alembic, all comes up; diſtil falſe, the Sallad Oil or Linſeed, that had been mixed therewith, will be found in the Still, and only what was true will ariſe. If chymical Oils be mixed with Spirit of Wine, and you pour them into a Glaſs of Water, a white Precipitation enſues; which don't follow if true.

Turpeth Mineral.——This is often adulterated by mixing with it what is called *Maſticot*, or yellow Lead, which is one of the moſt dangerous Tricks that is played; it is diſcovered thus: If Lime or Filings of Steel be put to the *Turpeth*, and the Mixture diſtilled in an Earthen-coated Retort *igne aperto*, having a wet Rag tied to its Pipe hanging in a Baſon of Water, all the Mercury will be had in a running crude State in the Water; and the Salts that held it in Diſguiſe will only remain behind with the Abſorbent added. If falſe Turpeth be ſo treated, leſs Mercury will be had from a Weight equal to the true juſt-named; and beſides, by the Uſe of proper Fluxes the Lead may be had out of the Fæces or Remainder in a crude State; but as ſome of theſe Examinations or Trials are not eaſy to be made by Perſons not converſant in Chymiſtry, the chief Remedy they have left is to apply for Medicines and Drugs to Men of Integrity and Veracity; for ſuch, we hope, are yet to be found. Of theſe Subjects more in due Time.

Nitre or Saltpetre is adulterated by Rock Salt, which I have found ſo here, and this will be diſcovered by putting it on a red hot Spatula, where it will crack if adulterated, otherwiſe not. If you pour hot Water on it, it will not all be diſſolved where Salt is, otherwiſe will.

Roſin is put into *Hungary* Water to make a Whiteneſs when it is poured into Water. This will be diſcovered by putting this Cheat *Hungary* Water into a Tin Pot, and holding it over a Candle till the Spirit is driven all away, and the Roſin will be then ſeen.

Sulphur is adulterated by mixing with the roll white Sand, which being melted, will let fall that Sand, and you'll ſee it.

Calculus Humanus, or Stone in the Bladder. ——This Subject has employed both the Thoughts and Hands of many great Men, and moſt of them have taken their Hints from *Helmont*, who doubtleſs has delivered many Things worthy Notice; however, I muſt confeſs I always doubted his Varacity in ſeveral Reſpects, and account both him and *Paracelſus* to have wrote more on Enthuſiaſtic Principles, than Mechanical ones; the latter of which Authors Book in Folio might be reduced to a Treatiſe of a Groat. One of the chief Things or Experiments that has led ingenious Men into a Hope that the Stone will ſome time or other be diſſolved by Remedies is that of Sulphur's being diſſolved by Oil, a mild Menſtruum, which is ſo difficult to be touched by other Menſtruums; likewiſe that of divers Stones being diſſolved by a Spirit of Rye-bread. After *Helmont*, the firſt Chymicus's in the World thought of this Thing, *viz.* The truly admirable *Boyle*, *Becher*, *Kunckelius*, *Dipple*, who wrote under the borrowed Name of *Chriſtianus Democritus*, Profeſſor *Stahl*, Baron *Schack*, a Gentleman well verſed in the moſt difficult Part of Chymiſtry, the Mineral, the Profeſſor *Magnificus Bullfinger*, *Roſſer*, the famous Chimicus, now at *Hamburg*, the late great Profeſſor *Hoffman* and the renowned Profeſſor *Boerhaave*: Theſe great Maſters in Chy*miſtry* have wiſhed for the effecting the great Work of diſſolving the Stone; and the laſt of which has laboured therein many Years; but theſe truly-able Chymicus's not having brought about the Work, I confeſs that I, ſuch a *Tyro* in Reſpect to them,

them, could have very ſmall Hopes. However, for Amuſement Sake, I made ſome Trials, tho' without the Succeſs wiſhed for, which I will ſet down to ſave other abler Enquirers the Trouble of going thro' the ſame again.

Menſtruums or Liquors tried on the human Calculus's out of the Bladder.

- *Spirit of Manna.*
- *Spirit of Honey.*
- *Spirit of Bread of Wheat.*
- *Spirit of Sugar.*
- *Spirit of Barley.*
- *Diluted Spirit of Salt.*
- *All the Kinds of Aquafortis diluted.*
- *Lotio Mercurialis diluted.*
- *Spirit. Vitriol. Philoſophic. diluted.*
- *Engliſh Vinegar diluted.*
- *Sour Milk.*
- *Juice of Lemons.*
- *Juice of Seville Oranges.*
- *Cyder, the ſharper Sort.*
- *Diluted Verjuice.*
- *Sour Small Beer.*
- *Spirit of Guaiacum.*
- *Of Verdigreaſe rectified.*
- *Spirit of Tartar.*
- *Spirit of Rice.*
- *Diluted acid Spirit of Salarmoniac.*
- *Diluted Eſſentia Diaphoretica.*
- *Diluted Spirit of Allum.*
- *A Solution of Nitrum Antimoniacum.*
- *Wine Vinegar; for all the Vinegar generally in Uſe is only Small Beer, which, when in the Hands of the Chandlers or Retailers, has Two-parts of Water added to it.*
- *Diluted Spirit diſtilled from Sal. Mirabile.*
- *A diluted Solution of Nitr. Fix.*
- *Gas Sulphuris.*
- *A Spirit diſtilled from Wood Soot.*

Many of which Liquors will diſſolve the lighter Chalky-Stones out of the Bladder, ſuch as I had given me by that very able Surgeon, Mr. *Freke*; but others that I had of that Maſter of his Profeſſion, Mr. *Cheſelden*, and of that ingenious and worthy Gentleman, the Revd. Mr. *Hales*, (who has carried this Matter about the Stone further than all others,) were of a prodigious Hardneſs,

neſs, ſome of which looked like a poliſhed Marble when ſawed aſunder, and which required the ſtrongeſt Spirit of Nitre to diſſolve them.

Portland Stones, Pebbles, Flints and Marble may all be diſſolved in ſome Time by a mild Menſtruum, which the Stomach or Bladder could endure; but the Animal Mucus in the Calculus, which is one of its component Parts, hinders the Action of the ſtimulating Menſtruum, and thence prevents the Diſſolution of it.

The Attempts I propoſed were all by Injection into the Bladders of Dogs, *&c.* which will bear all the Liquors juſt mentioned; for to attempt by the Mouth, and go the Circulation, to me ſeems a mere Chimæra; and all that have hitherto offered to Sale *Noſtrums* to do the Work by that Means have either been deceived themſelves, or had a Deſign to deceive others: But altho' the Dogs bear quietly enough the injected Liquors, I cannot adviſe putting the ſame in Practice in Perſons, becauſe of the extreme Tenderneſs of the Parts, and the need there is of repeated Injections. The Human Calculus being put on an hot Iron, and preſſed a little by any Thing hard, tumbles to a grey Powder or Earth, which is diſſolved by *Aquafortis ſimplex*.

WHEN *Aquafortis* is poured on the Calculus, no Effervescency is ſeen; nor when *Aquafortis* goes on the Aſhes of it.

THE Calculus has no Taſte.

CALCULI have a Kind of Shell or Cover like Bezoar.

CALCULI don't grow any harder by being kept.

BEING diſtilled, there comes forth white Flowers, or a volatile Salt, and a fœtid Oil, *&c.* which has the ſame Smell as Diſtillations of animal Subſtances have: They may moſt properly be called an animal Tartar; of which Nature are the Gouty Chalk Stones in the Fingers of gouty People.

OF all Menſtruums I have tried on theſe anomalous Concretions, the following has the greateſt Effects, *viz.* Cut our Phoſphorus into very ſmall bits, ſpread them on the Funnel uſed to let alcalious Salts run *per deliquium*, place it in a Cellar for ſome time, when the Phoſphorus will turn to a Liquor or *Liquamen*: put this *Liquamen* into a Spoon, which hold over a Lamp of Spirit of Wine, when in Time the Humidity will be exhaled, and the phlogiſton or ſulphurous Part will take flame, and be conſumed, and there will remain an acid Liquor very pungent or ſour, which being diluted by ſeveral times its Quantity of Barley-water, is the Diſſolvent: This, I ſay, will diſſolve more

Stones, than all other mild Menſtruums; yet I cannot adviſe going to work on the Injections; and indeed Mr. *Hales* told me he would not adviſe it neither.

TOUCHING the Stone in the Bladder, it is my firm belief, that the *Materia Calculi*, or the Matter or Root of the Stone, is in all Mankind, altho' it does not actually come to be a Stone in every Perſon. It would be a glorious Work if any Phyſician, Chymicus or other ſhould be ſo happy as to hit on Means to deſtroy the Radix, or to hinder that Propenſity in the human Latex's to run into ſuch Concretions, which, I know one of the firſt *Medicus Chymicus's* in the World is now attempting. While I attended the Colleges at the Univerſity of *Paris*, and Chirurgical Lectures, one of the firſt Surgeons of that City, in his Diſcourſes, related the following, *viz.*

THAT a young Woman playing Tricks with a Bodkin in a certain Part, let the ſame fall into her Bladder, when not lying there long, and being afterwards extracted, was found covered with a calculous Matter. If any one makes Water for ſome time into any Veſſel, and only empties out the Water without waſhing the ſaid Veſſel, he will ſoon ſee it lined or coated with a true *Calculus*. Beſides the human Species, there are Animals in whom true *Calculi* are ſometimes found, *viz.* in Dogs, Rams, Horſes, and Hogs.

It is ſometimes found difficult to ſtop the Progreſs of Mercurial Medicines in a Salivation; the following has been found to ſucceed better than other Things, *viz.* To give two or three Grains of *Aurum Fulminans* made into a Bolus with any Conſerve once a Day, and to purge a little with the true *Sal Glaub.* for Mercury runs greedily into, or joins with Gold, which is evident from many chymical Experiments. This *Aurum Fulminans* given in any higher Degree, will beget great *Tormina* in the Ventricle and Inteſtines; but eſpecially in the former: I mention true *Sal Glaub.* for almoſt all the Salt vended under that Title at preſent is a falſe Preparation; and indeed it is a ſhocking thing to conſider the dangerous Practices of the *Falſarii* of the preſent Time, among whom it is the ſole Study to adulterate and ſophiſticate in the Preparation of Medicines, both Chymical and Galenical; about which I have talked with ſeveral of the learned Members of the College of Phyſicians, and concerning which I may ſay more in due time; as well as other Male-Practices exerciſed in Eatables and Drinkables. Mercury well divided will ſalivate. *Æthiop*'s Mineral is thought by ſome to be trifling, and not to enter the Blood; but it has been found that, being taken by a Man having a Plaiſter on his Leg, the Mercury was adhered to the Plaiſter.

Touching a true Diſſolvent for the Cerumen Auris.——I have found by Experience that warm Water does readily and entirely diſſolve it; for it is a kind of Animal Soap: Water therefore is more proper for this Uſe in the Ear than Oil.

HIGHLY rectified Spirit of Wine has generally been directed to preſerve *Cadavera*; but I have found that, if uſed ſo ſtrong, it ſhrivels, contracts and ſpoils them, and that a Mixture of three Parts of Spirit of Wine, and one of diſtilled Water, does beſt for the Purpoſe.

To cure Burns without ſuffering Pain.——The curing Burns without Pain to ſome, I doubt not, will ſound ſtrange; which, however, if the Burn don't happen on the Trunk of the Body, or Head, will be found to be fact, *viz.* as follows: As ſoon as a Burn happens to any of the Limbs, ſuppoſe a Hand, or Foot, let the Part be immediately put into a Veſſel of Water; and if it happens in the Winter, let a little warm Water be added to the cold, to take off the great Coldneſs, and to bring it as near as can be to the State of Water in the

Summer, whereon the Sun don't ſhine; for if the Water be too cold, the Perſon will be uneaſy: Again, Care muſt be taken, if the Thing happens in the Summer, and, indeed, the Winter too, that the Water does not grow warm by continuing the Limb in it; for if it does, the Patient will be made uneaſy from that reaſon, which muſt be remedied by prudently adding now and then a little cold Water. In this Poſture very little or none of the uſual tormenting Pain will be felt, which ſhews that the Air is the Cauſe of the Pain. In this Manner the Part muſt be held four or five Hours, taking it out now and then, to feel whether the Pain be gone, which if not, it muſt be put in again; but if it is, proceed to treat it with the following Unguent.|

Recipe Ol. Olivar. Unc. Quat.
Ceruſſ. Unc. unam.
Axung. Porcin. Unc. unam.
Sperm. Ceti, Unc. dimid.
Ceræ Flav. Drachm. duas.
Vitel. Ovor. duor.

Powder the Ceruſs, and boil it in the Oil till diſſolved, and it is tranſparent, then ſtop; for it muſt not be thicker than a Syrup, or Turpentine; then add the *Axung. Sperm. Ceti*, and Wax, ſtir it well till cold, then beat it in a Glaſs-Mortar with the *Vitel. Ovor.* or inſtead of the *Ol. Olivar.* may be uſed *Ol. Hyper.*

For a Burn, communicated by the celebrated Abbertus Seba, *of* Amſterdam.—Take Spirit of Earth-Worms made with rectified Spirit of Wine twelve Ounces, Camphire two Ounces, mix.

No ſooner is a Bandage or Compreſs, dipped into this Spirit, applied to the affected Part, but it will give inſtant Relief, and ſo effectually check the Inflammation, that it will creep no farther; but the Application of it muſt be continued till the Pain be quite gone, and the Ulcus, if there hath been any, is dried up.

If the Exulceration is got deeper, and the Wound muſt be kept open, two Ounces of Camphire, diſſolved in *Oleo Hyperici*, mixed with a Pound of the common *Unguentum Ceruſſæ*, applied according to Art, will quickly and effectually heal it, as I have often experienced.

Being ſolicited very much by many of the Gentlemen of the ingenious Profeſſion of Painting to find them a florid, laſting, green Colour, in which reſpect the World was always deficient, I worked hard on that Diſcovery jointly with a Virtuoſo, which at laſt was accompliſhed; as were likewiſe ſome other Colours, accounted by Artiſts to be uſeful. And while I was on theſe Searches, the Houſe Painters believing I knew the Nature of Colours applied themſelves to me for help in the deplorable Caſes many are under from the Uſe of their Colours. This excited me to a thorough Search into all the Ingredients or Preparations uſed in their Buſineſs, whereby to come at the Knowledge of their Enemies, which I find to be ſeven, of which two are Mercurial, one Arſenical, and two of Lead among the Portrait-Painters, which they uſing in ſmall Quantities and little Dawbing, no Miſchief ariſes to them; and in the Hands of the Houſe-Painters four, *viz.* two of different kinds of Lead, red and white, one Mercurial, which is the fictitious Cinnabar, and one of Verdigreaſe: From the red Lead and Cinnabar they receive hurt; but the ſource and chief Spring of their Deſtruction comes from the white Lead, and the Verdigreaſe, which containing either a Mercurial or Arſenical Principle, cauſe Gripings, ſtop the Excretion both of the Fæces and Urine, bring on Spaſms, Tremblings, difficulty of Breathing, Suffocations, exceſſive Vomitings, Irritations to Stool, and Ulcers in the Inteſtines, *&c.* with Lameneſs, which terrible Effects fall on the Colour-Men, alſo Verdigreaſe-Makers, Makers of white Lead, thoſe who Tin over Metals, Plumbers and Painters, among whom I have met with ſad Objects; but none ſo bad as the Plumbers and Makers of white Lead. The bad Effects of the Verdigreaſe and white Lead are ſuch, that one of the beſt Artiſts in Colours I have met with told me, that a Cat cannot live long in his Houſe, but dies by thoſe Ingredients: And I ſaw an Experiment made in the *Rue St. Honore* at *Paris* by a Virtuoſo, who placed a Pidgeon in a Cage, which ſtood on the Window of a Colour-ſhop as far as it could out to the Street, when notwithſtanding all proper Care was taking to feed him, *&c.* he ſoon drooped and died. Verdigreaſe, or the green Colour is very much uſed in *Holland*; for in and about *Rotterdam* a Man ſcarce ſeeth any other, and there the People who work therein are very wretched; which alſo is much uſed in the *West-Indies*, on the Veſſels, *&c.* that go to Sea. The Caſe of poor Workmen occupied in theſe Things is very hard, and no great deal is to be done for them; however, I have ſeen ſome good Effects from the following Preventatives, and Methods of Cure, *viz.* Let the Plumbers, and thoſe who tin Metals over, procure a large Sponge, which let them fill with Water, or one part Vinegar and three parts Water, ſqueezing it afterwards gently out; and, by means of two Strings conveniently tied thereto, let the ſame be fixed over the Mouth and Noſtrils, which will greatly hinder the noxious Fumes from entering, and which Practice I have found of great Uſe in a chymical Elaboratory when we have to do with acid Spirits, or mix Sublimate with the Mercury for Calomel, *&c.* Let alſo the ſame Method be uſed by the white Lead Makers, Makers of Verdigreaſe, Colour-Men, and Painters; and let all theſe Artificers procure Gloves to be made of Bladders, which let them dip in a Mixture of Vinegar and Water as before-ſaid, and wear the ſame while at Work, which will keep off the Evil much longer.

As to Methods of Cure, Profeſſor *Hoffman*, firſt Phyſician to the King of *Pruſſia*, and one of the firſt Chymicus's in the World, adviſes, if Cholics enſue from the white Lead and Verdigreaſe, to uſe Clyſters of Oil, Butter, or fat Broths, and to give Oils internally, or melted freſh Butter; then to drink warm Water till the Patient vomits. If Palſies come on, to bathe in Baths of warm Water, and to continue a Milk Diet: And great Care ought to be had, that the Oils given be freſh; for I have obſerved that expreſſed Oils are noxious and unfit for Uſe in fourteen Days, nay, an Emulſion of ſweet Almonds made in Water I have found to grow acrid in one Day.

A RENOWNED Profeſſor ſays, he knew a Woman cured of a violent Aſthma contracted from white Lead, by drinking Vinegar.

BUT I have thought of a better and more ſure Cure than all this, which is to ſend the white Lead and Verdigreaſe to the Bottom of the Sea, or never to uſe them; in lieu of which I am certain from Experiments, that a good innocent green Colour is to be made; and I would, for the Good of the poor Sufferers, beſtow pains to produce them a white preparation inſtead of the poiſonous white Lead.

An Account of other Workmen deſtroyed in their Health.——Thoſe who make Shot of Lead. Thoſe who work in Arſenic. Founders, from the Fumes of Metals. Chymiſts, from acid Spirits. Thoſe who make Looking-Glaſſes, from the Mercury on the Back of them. Gilders, from the Mercury they uſe. Refiners, from the great Quantity of *Aquafortis* they uſe. Glaſs-Houſe Men, from their vaſt Perſpiration; for, tho' it be proper we ſhould loſe two Pounds of our Weight by natural Perſpiration when we are in Bed, theſe Men are hurt by theirs, which amounts to near four Pounds, which is the Caſe of the People in both the *Indies*, where few live to be old. Thoſe who dig in Mines, from the bad Effluvia. Thoſe who work in Coal Pits, from the Steams and Damps, and where the Accidents would make a Hiſtory. People that are much in fermenting Vaults of Wine or Ales, from a ſubtle Acid. Thoſe who ſilver over Metals, now called *French* Plate, where the Miſchief proceeds from the Mercury they uſe Thoſe who work much in Tin, which (when heated) ſends up an arſenical Fume. Thoſe who make Biſmuth, likewiſe from an arſenical Principle. The Dyers may receive Injury by the Blue; for Indigo has a noxious Principle in it. Thoſe who work much in Charcoal, which gives an acid Fume not unlike *Aquafortis*, or Spirit of *Nitre*.

If a Perſon ſhould ſet a Chaffing Diſh of Charcoal in his Room, and hang a Blanket againſt the Door and Chimney, and go to Bed, he would be found dead in the Morning. Alſo, if a Perſon ſhould go to Bed in a Room newly-painted green, he would be ſound dead in the Morning too, which proceeds from the Acid of the Verdigreaſe that coagulates the Blood in his Lungs. Likewiſe are Printers hurt by the Letters they handle, becauſe they are made of *Regulus* of *Antimony* and Lead, which Lead abounds with *Arſenic* or *Ratſbane*. There is another Kind of Workmen likewiſe hurt in their Health, *i. e.* the Stonecutters; for the more ſubtle Part of the Powder that flies gets at their Lungs.

The Directions given heretofore to guard Painters, *&c.* againſt Miſchief may moſtly ſerve here. I would add one Obſervation now, and that relates to Employs that oblige People to ſit very much, who are certainly hurt thereby; for Motion is abſolutely neceſſary to Health and Life; even incurable Piles have been known to be brought on by much Sitting. The Exerciſe of Walking is better than Riding, for Riding occaſions a Perſon to be coſtive, and that from making the Fibres turn upwards.

To preſerve Sperma Ceti white.——Take highly-rectified Spirit of Wine, *i. e.* of Malt, put therein the *Sperma Ceti*, let it remain in about Half an Hour, ſhaking it often, pour the Spirit off from it, and lay the *Sperma Ceti* upon Paper to dry in the Shade. This ſame Spirit of Wine will do for two or three Parcels of *Sperm*; and then, if it be diſtilled up *in Balneo Mariæ*, it will ſerve for the ſame Uſe again, and ſo on for a conſiderable Time; and, if it is at laſt diſtilled up in the *Balneo* as aforeſaid, it will ſerve for moſt Extractions, ſuch as Colocinth, Jalap, Scamony, Agaric, Ellebore, *&c.* or to burn in a Lamp.

To hinder the Offence in Back-Houſes.—Let a Peck of unſlaked Lime be thrown down, but firſt mix with the Lime an Ounce of Pearl Aſhes, or true Pot Aſhes, and Half an Ounce of Oil of Vitriol, which will have the deſired Effect.

Laſting Writing.——Write upon white Paper with a good Black-lead Pencil, then take the White of an Egg, beat it out with a Whiſk, as is done for clarifying Syrups, with which cover the Writing thinly over, then place it in a Tin or other Veſſel ſwimming upon hot Water, by which the Egg will be dried. This Writing cannot be diſcharged by any acid Spirits, without deſtroying the Paper, neither will any Time obliterate it; whereas all Kinds of Ink will be loſt by Time; even by carrying Writings to Sea, they will be in a great Meaſure loſt; ſo will Lancets, *&c.* become ruſty, which proceeds from the ſaline Points carried about in the Air; for we ſee that Sea Water thrown upon Writing will totally diſcharge it. Inks are readily diſcharged by all acid Spirits, and particularly by Spirits of Salt: It is with this, without its Flowers, that Knaves have diſcharged Writings, and not *Aquafortis*; for that leaves a Yellowneſs that is ſeen; when they have taken out the Writing, they make the Paper bear Ink again for their ill Purpoſes, by applying to the Parts a Mucilage of Shreds of white Leather boiled ſtrongly in Water. Having been aſked by Ladies ſometimes, what would diſcharge Wine out of Linen? I informed them that Stains of Red Port are diſcharged by Spirit of *Salarmoniac*; and Wax dropped on any Garment is taken away thus: Wet a Rag with Water, put into it Embers of Wood, cover it by folding the Rag over it, touch it to the Wax, and it forthwith goes off.

A durable Writing another Way.—Let an Ink be made with *Gum Arabic* diſſolved in Water, and finely-ground burned Ivory, and write therewith, which acid Spirits cannot diſcharge; and to ſecure it againſt Attempts by hot Water, *&c.* the Writing may be covered with the beaten White of Egg, as aforeſaid.

To render Cordial Waters ſoft and mild. —When the Cordials are made, put them into flat Pans, the ſame Women bake Puddings in; ſet them in a large Room where there is no Fire, there let them ſtand 48 Hours, when they will let fall a little Sediment, which is a ſmall precipitation made by the Humidity in the Air, from which you may pour the Cordial Waters off, or crane them, and philtre the laſt three or four Ounces; this Proceſs carries of the moſt fiery, active parts, which is perceiv'd when Cordial Waters are drank.

An admirable Cure communicated to the Royal Society of London, *by a Member thereof, againſt a ſore or ſwelled Throat or Quincey.*—To eat black Currants, or ſwallow the Juice, or a Jelly of them; or if theſe can't be had, a Decoction of the Leaves or Bark of this Shrub. Note, the Jelly fails in its Virtue in a Year's time.

An Oil for Clocks, Watches, and other Machines.—It is generally complained by Watchmakers; that in cold Weather the Oil congeals in the Works, and obſtructs the Motions; to remedy which, proceed thus: Look into a Jar of Sallad Oil in Winter, when it is frozen or congeal'd, and there will be found in the middle of it about a Pint and a half, or a Quart of Oil that is fluid or uncongealed, and which no Cold in this Climate is capable of Freezing, which may ſerve for the purpoſe for Watch-makers. Again, it is complained by theſe Artificers, that their Oil generally grows thick or viſcid about their Works, and ſo impedes their Motion; to remedy which, let an Oil be preſſed out of *Behn Nuts*, which is of a prodigious laſting Nature, and doth not alter, corrupt or ſpoil in many Years; I kept and obſerved it 14 Years; whereas on the contrary, expreſſed Oils, ſuch as *Almonds*, and the like, become noxious in 14 Days. When Sallad Oil is deſigned to be uſed, as in the Experiment about the Jar, the Artificers ought to deſire Merchants to get their Correſpondents to ſend the Oils over hither unmixed with Salt; for they uſually mix Salt, which is to make them keep, which Salt by its acrimonious Parts corrodes their Machines, and does them Injury that Way. Oil expoſed to the Sun grows corroſive, becauſe the heat rarefies or puts in Action it's innate Acid, the Principles of it being an acid Salt, Water, and a Phlogiſton.

To clean Fire Arms in Arſenals, &c. *without filing.*—Take Scales of Iron one Pound, Bloodſtone four Ounces and one Drachm, Emery eight Ounces and two Drachms, fine Flour four Ounces and one Drachm; reduce all to a fine Powder, then make a Jelly of Iſinglaſs in Water, with which beat the Ingredients up to a Paſte in an Iron Mortar, and therewith make a Kind of Cakes, by putting them into Molds of Tin or Wood, half an Inch deep, two Inches wide, and three long, and let them dry in the Shade. With this you clean Fire Arms or any Iron Utenſils, which may be poliſhed with the following: Take Half a Pound of Oil, into which thruſt a red-hot Iron, which in ſome Meaſure breaks its Texture, and renders it not ſo greaſy as before; to this put half a pound of black Lead, and half a pound of white. If the Arms are deſigned to be laid up in an Arſenal, they may be preſerved in this Manner, *viz.* Take Flowers of Zink four Ounces, Linſeed Oil one pound, which boil together till the Flowers are diſſolved, which muſt be ſpread upon the Arms, and let dry. The Flowers of Zink are made in this Manner, *viz.* The Zink muſt be put into a Crucible, and ſurrounded by a pretty ſtrong Charcoal Fire, when a meally Subſtance will ariſe to the uppermoſt part, which muſt be taken off with a Spoon: This was communicated to me by a Maſter of the Mines in *Germany*.

Monſieur Hamburgh'*s Way to prevent ruſting in Iron or Steel, contrived for the* French *King's Arſenals.*—Take Hog's Lard well cleanſed half a pound, melt it in a glazed Pot, with three or four Spoonfuls of Water, ſtrain it through a Linen Cloth, melt it again in the ſame Veſſel over a ſlow Fire, adding four Ounces of Camphire pounded, let it boil gently until the Camphire is entirely diſſolved, then take it from the Fire, and, whilſt it is ſtill hot, put as much Powder of black Lead into it as will make it of an Iron Colour: Rub this very hot on the Iron or Steel.

Preſerving Surgeons Inſtruments from Ruſt. ——Let Oil be put into an earthen Veſſel, pour on it ſix Times its Quantity of diſtilled Water quite hot, ſtir it well, let it ſtand to ſeparate again, which it will do, then ſeparate the Oil totally from the Water by a Glaſs Funnevel. This Proceſs waſhes out the nitrous Salt that corrodes the Inſtruments; after which it muſt be boiled like a drying Oil.

Preſervation of Meat ſome Time without Salt — It's done by wetting a Napkin well in Vinegar, and wringing it out, in which the Meat muſt be wrapped; by which Means it will be kept a Fortnight or longer in hot Weather. But into a Pint of ſuch Vinegar you muſt firſt put a Scruple of true Spirit of Kitchen or common Salt.

A CAPTAIN of an *Indiaman* gives the following Account: Roaſt a Piece of Beef at *London* half the proper Time, let the Juice run out all that while, then cover it quite with melted Suet: Roaſt this Beef further at the *Eaſt Indies*, and it will be good.

A LADY from *Jerſey* gives this: Take Veal, Lamb, *&c.* pull off the Blood Veſſels all you can, and the Fat, wipe well with a Cloth, ſtrow over finely-powdered Pepper, which, being roaſted or boiled a Week after in the hotteſt Weather, was good, and ſhe doubted not it would be ſo in a Fortnight. Before ſhe dreſſed it, ſhe bruſhed and ſcraped off the Pepper, and waſhed it; after which it did not taſte of the Pepper: During the Time this Meat is keeping, no Flies will come near it.

And this: Take an Hare or Rabbet, empty out the Inwards, hang it up by the Head to the top of a Barrel, with it's Bottom out, then ſink the Bottom into freſh Earth, it keeps three Months. No doubt the Barrel ſhould be cloſe every where to keep out the Air.

Liquors grown Sour, as Wines, Beers, Ales, Cyder, *&c.* will be rendered drinkable or have that Sourneſs taken off by putting into the Liquors Oyſter-ſhells found on the Sea-ſhore, and grown white, and which are to be had at the Druggiſt's; which muſt be only broke into Pieces as broad as a Shilling or Six-pence, and not powdered, which if they are, the leaſt Motion of the Liquors raiſes the Particles, and ſo they make them look troubled. Chalk, or other Abſorbents called Teſtaceous, will take off this Sourneſs too, but they leave a diſagreeable Taſte behind.

Touching true and laſting Japan.—The following Proceſs was communicated to me by the Phyſician of his preſent Majeſty, King *Staniſlaus*, which I have not tried, *viz.* Take Umber, Litharge of Silver, red

Lead, of each four Ounces, powder them, and pour thereon three Pounds of Linſeed Oil, and let it boil, without ſtirring the Ingredients with any Thing. When it is boiled and grown cold, pour the Oil off from the Powders into another Veſſel: Take of this one Pound and a half, Oil of Turpentine two Pounds, or three Pounds, White Amber finely powder'd one Pound, Boil'd Turpentine one Ounce, mix according to Art for Uſe: This the ſaid Gentleman averr'd would withſtand hot Water, or other Trials.

Inſects in Books that deſtroy the Paper.— I have endeavoured by many Experiments to keep theſe Animals out of the Books by Scents diſagreeable to them, of which Camphire is known to be one of the beſt; however, I found it neceſſary to go further; the following Machine deſtroys all Animal Life whatſoever, neither can any Sperm or Eggs come to Maturity after having been put therein, *viz.* Let a Brick-work be raiſed in the Nature of a Furnace, fix therein a Copper-Kettle or Veſſel, which fill two Parts in three with Water; have alſo another Copper Veſſel with a flat Bottom, ſo as to ſtand with its Bottom immerſed two or three Inches in the Water; let there alſo be made another large Copper Veſſel, like the Head of a Still, but withont a Neck, which join to the laſt mentioned Veſſel, wherein the Books muſt lie upon ſeveral Foldings of Paper, to hinder them from touching the Metal; when the two Veſſels being luted, give a Fire underneath in the Furnace, which will heat the Water, and the Water will heat the ſecond Veſſel, and the Veſſel will heat or rarify the Air, ſo as to deſtroy all Life. If a ſtrong Fume of Sulphur were made in a Library, it would alſo deſtroy theſe Animals; for if the Fume be ſtrong enough, no Animal Life in the World can ſuffer it.

Distillers often receive great Miſchiefs by Fire from the blowing off the Still-head, to remedy which do as follows, *viz.* Let a Kind of Trough or Receptacle be made of Tin or Copper, which may be fixed about the Head of the Alembic, and ſo as not to hinder the joining of the Head to the Still, which Trough muſt have a Pipe pointing off from the back Part of the Furnace, diſtant from the Fire-place, to which muſt be join'd a Receiver; ſo that if the Spirits boil over the Mouth of the Alembic, they will run into the Trough, and ſo down by the Pipe, and not come near the Fire; whereas without the Uſe of this Machine they always run down the ſurface of the Brick-work to the Fire-place, and there take Flame, which is propagated upwards to the main Quantity of Spirits in the Still, and the whole takes Fire.

To guard againſt Monſ. Dupre's *ill Practice of opening all Letters, Envelopes or all ſealed Things whatſoever.*—This Man would imitate all Seals and Coats of Arms in an exquiſite Manner. He opened Seals by a contracted Steam of hot Water; and the Impreſſions he took off by an Amalgama of Mercury and Silver; or by ſtriking upon the Seal with a Hammer, upon which a Bullet is firſt laid, and by other Methods. I muſt own it's a difficult Work to contrive a Cement or Plaſtic Compound that will withſtand the Steams of hot Water; for it looſeneth all the things that a Man can think of: but as I was deſired by a noble Perſon to provide againſt *Dupre*'s Malpractice, I worked hard for a long while, trying all ſticking things I cou'd think of, but in vain. However, ſtill proſecuting the Search, I at laſt hit upon the point, which is this, *viz.* Let dry Garden-Beans be put into a Braſs Mortar, and ſome ſtrokes be given them with a Peſtle, when the Shells will fly off, which ſeparate from the Beans, which reduce to a fine Powder, and paſs them through a Lawn Sieve, then return the Powder into the Mortar, rubbing it till it becomes an extream fine Flour; then let the white of an Egg be beat out with a

Whiſk, as done for clarifying Syrups, a little of which muſt be mixt with ſome of the Flower, to make it a moiſt Paſte, which ſpread upon the Sealing Place of the Letter as big as a Shilling, or the uſual bigneſs of a Seal; then cloſe the two Papers, as is uſual in Sealing, and hold the Part cloſe to a Coffee or Tea-pot, or any other Veſſel, having in it hot Water, which will harden the Cement, ſo that it will never be opened by any means whatſoever, without tearing. The Way to guard againſt taking off Impreſſions, Coats of Arms, *&c.* is by ſmoaking the Seal by a Candle, *&c.* which being known to many, I would not inſert it here: When the Letter is made faſt by the Cement, Wax and any Seal may cover the ſame Place.

Experiments to deſtroy Bugs in Houſes. —This Matter has employed ſome ingenious Men, for I met with a Learned Profeſſor of Phyſic and Chymiſtry, who had been Labouring in vain on the Work ſeven Years, and who told me he alſo found *Millipedes* very hard to ſuffocate, which was his Method, or Attempt, to deſtroy them by: This Gentleman alſo acquainted me that if Sugar be placed thirty Feet from the Place where the Bugs are, they will run to it; where alſo if a Neſt of Ants be laid, the Ants will deſtroy all the Bugs; ſo that if thoſe Creatures were not ſo troubleſome Companions themſelves, they would be a Cure againſt the Bugs. As to all the pretended Remedies or Cures againſt theſe Vermin offered the Public daily, I perſwade myſelf they are nothing but Frauds: I let one of thoſe Propoſers do a Bed of mine, when, ſecuring a little of his Liquor, and examining it, I found it to be yellow Arſenic, and Oil of Turpentine, which, if he could perſwade the Bug to eat, would do; but I know he will march over that ſafely enough. The next famous Remedies People ſpent their Money in were Oil of Turpentine, Camphire and Spirit of Wine, equally to be laughed at.

THIS troubleſome Creature we know bites ſome People, and others he leaves untouched; but we have no Philoſophy to explain to us why he doth ſo; however we ſee from thence, that he has his likes and diſlikes as well as we. I endeavoured by a vaſt number of Trials to find what might be ſo diſagreeable to him, as to cauſe him to keep from the Bed, which I did, by powdering moſt of the Things found in the Druggiſt's-Shop that have any Smell, making a Ring with the Powder, and putting the Bug therein; when I found that one of the Things he diſlikes moſt is *Ruſſia-Caſtor*;

however, tho' this be laid about the Bed, he will not quit the place.

I THEN tried Rolls of Tobacco, the freſheſt to be had; Pellitory of the Wall, Rue, Wormwood, ſeveral Chymical Oils; which Mr. *Bradley*, Profeſſor of Botany, at *Cambridge*, ſpeaks of, but all in vain.

I THEN tried to deſtroy him by Fumes, which I made firſt of Flowers of Sulphur, Filings of Steel, and Oil of Vitriol, ſetting them on a portable Iron Furnace with lighted Charcoal under it. Likewiſe Fumes of acid Spirits, Fumes of Mercury, Fumes of all the Species of Arſenic, all which he ſtood boldly; when all other Creatures I tried were killed by ſome of thoſe Fumes, except the Ant, which is likewiſe a ſturdy Creature. At laſt I tried the following, which no Animal Life can ſubſiſt under. Let Matches of Sticks be made by dipping them in Common Sulphur, ſo that they may have adhering to them four Pounds of it, which will do for ſome Rooms; but if the Room be of the bigneſs of 200 Cubical Feet, it requires about ſix Pounds, which Matches muſt be ſet upright in Earth put into a large Earthen Pot, ſuch as Trees are planted in, and ſet on fire in the Room where the Bugs are troubleſome, ſtopping the Chimney, by hanging the Blankets before

fore it, and likewiſe cauſing Blankets to be hung againſt the Cracks of the Door, in which a little hole muſt be made, and cover'd afterwards with Glaſs, that may ſerve for a Peep-Hole to ſee no Miſchief enſues.

THIS Sulphur while burning will give a prodigiouſly ſtrong Funck, and ſuch as will kill all Creatures in the Univerſe. The Work might be begun in the Morning, and by next Day the Fume will be ſubſided, and the Door may be opened. It would be proper to make the Fume when hot Weather comes on, and they begin to bite, and again in *September*. All Gold and Silver Laces, Pictures or Cloaths of fine Colours muſt be taken out of the Room, which, with other Circumſtances, renders it a troubleſome Work; however, I am perſuaded by many Years Obſervations that there is no other way to help us but this Method, and the two following, *viz.* Let all Things that may be wet without damage to them be put into the great Worm-Tub of a Diſtiller, or Chymiſt, when he has diſtilled ſo long that the Water in the ſaid Tub is hot, by which the Bugs are killed, and their Eggs rendered abortive; for no Animal Life can ſubſiſt in hot Water; and the Things that are improper to wet may be put into ſuch a Machine as is deſcribed herein for deſtroying Inſects in Books, where alſo the Wood-work, or thoſe Parts we have juſt mentioned to be put into the Still-Tub, may be put likewiſe: For which purpoſe the Machine muſt be made big enough, wherein the Air becomes ſo hot as to deſtroy Life, and yet would not damage Laces of Gold and Silver, *&c.*

Staining Marble Yellow.—Put an Ounce of powdered Gumboge into a Pint of rectified Spirit of Wine in a clean Oil-flaſk, ſet it in hot Water for three or four Hours, ſtopping the Mouth with Paper, where let it be often ſhaken, then let it grow cold, and paſs it thro' filtering Paper in a Funnel, which affords a bright yellow Tincture. The Marble to be Coloured muſt be laid on hot Embers of Wood, then with an Hair Pencil mark on what Figures you would have, when they will go deep, and bear poliſhing. In the ſame Manner you do red, with a Tincture of Dragon's Blood, in Spirit of Wine made as above; but the true Sort muſt be had.

Refining of Borax.——Waſh the Tinckall firſt in a weak Lee of Pearl-aſhes cold, then take Pearl-aſhes, of which make a Lee ſtrong enough to bear an Egg, philtre it, put it into a leaden Kettle that ſtands in a Brick-work Furnace, put Fire under, and when hot, put into it near as much Tinckall as itſelf, ſtir frequently with a clean Stick to make it diſſolve, boil it, and in boiling ſcum it, boil near one half away, philtre, pour it into the ſame leaden Kettle that is firſt waſhed, cover it with Boards and Sacks, to ſtand warm, to ſhoot into Cryſtals, which takes a Week to do, ſo you will have the Cryſtals big; but if not kept warm, the Cryſtals will be leſs.

Refining Camphire.—It muſt be mixed with its own Weight of powdered Cryſtal-glaſs, and put into a Bolthead, that is of a flattiſh Form, not ſo deep as wide, and having a Neck equally wide all the Way up, where it muſt be ſublimed by a ſlow Heat of Sand; but I ſhould think Bakers-aſhes better. This Proceſs I had of *Scot*, the Chymiſt of *Edinburgh*, who ſaid it was *Johnſton*'s Way, who refines for the *India* Company; but I never ſince had an Opportunity to try it.

Refining of Nitre.—Have a leaden Cauldron, put therein one hundred Pounds weight of Nitre, add Water enough to diſſolve it by boiling, when diſſolved, add one Pound of Alum, Common, ſtir well, the whole will grow clear, let it ſtand quiet till it is Milk-warm only, draw off by Means of a Cock into an Iron Veſſel, exhale to a Pellicle, then draw it out of that Veſſel by a Cock into another Lead Veſſel, where it ſhoots into Cryſtals.

WHAT relates to Mice, Rats, Flies, Fleas, Waſps, *&c.* a perfect Remedy is not to be expected; but a Palliation or ſome Relief may be had. As to Fleas, if you boil the Leaves of the Nut-tree in Water, and ſprinkle the ſame under the Bed, it will do a great deal: Likewiſe it will be found very uſeful if you Scatter there powdered Quick-lime, or a Lee of Lime. As to Rats, if a Drum be beat about the Houſe it will make them quit it for a Time; but then they will return. One Way of deſtroying theſe Creatures is, to let a Piece of Sponge be tied croſs ways with Pack-thread ſo as to Compreſs it, which muſt be baked in an Oven, when it will keep in that Form, then take off the Pack-thread, and rub it with Butter and lay it in the Way of the Rats, which being Swallowed by them, the Moiſture of the Stomach will Swell it ſo as to kill them: And this may be done with Mice by a leſs Piece. If you catch a Rat, and hang a ſmall Bell about his Neck, and turn him looſe, this will have a very good Effect in frightening the reſt away. It has been tried, that a Rat being catched, and his *Anus* ſewed up, ſo that he could not Secerne, he grew ſo uneaſy, that he fell on his Fellows and deſtroyed almoſt all of them. Again take powdered Cantharides or *Spaniſh* Flies, mix them with Butter, which the Mice and Rats eating, they will grow ſo full of Pain as to kill their Fellows, and die themſelves afterwards. It is true theſe may lie about an Houſe and ſtink, whence ſome Inconvenience ariſes. We have heard lately of a kind of Trap communicated lately here, which has been long known in *England*, and might be improved thus; it is directed there that the Rat may fall into a thing of Water; but the Fore-legs of the *Norway* Rat enable him to get out of a Veſſel unleſs he be hindered, in order to which let ſtrong Leather be ſtretched upon a Board, and nailed till it is dry, with which cover a large Earthen Veſſel, tying it round with a String; in which cut ſo as to divide the Leather into four Flaps or Pieces, near the Ends or Corners of which lay the Bait for him to eat, ſo that walking upon the Leather to come at it, the Leather will let him down into the Water, and riſe up to its Place, and keep him in, and this perhaps would be beſt done with Horſe-ſkin. A Cat is an uſeful Creature; but as the He one is ſeldom at home it is beſt to cut him when he is ſix Weeks old, which will keep him at home, and then he won't piſs the Houſe, which he will do if the Operation be left after that time. There is a Man in *Ireland* who makes it his Buſineſs to catch Rats, which he does by Means of about ſeventy Traps he brings along with him, and doubtleſs does a great deal of good ; but to theſe none are Strangers.

No particular directions can be given to hinder a Waſp to Sting, but what every Body knows ; however if it ſhould happen, and the Sting be left in the part, it is extracted by preſſing the End of a Key, or the like Inſtrument, upon the Place, ſo that it may let the Sting riſe up into the Hole or Hollow of it, when by a pair of ſmall Nippers it may be drawn away, after which the following may be applied, *viz.*

TAKE Oil of Turpentine, Oil of Sweet Almonds, and Tincture of Myrrhe, of each the ſame Quantity, mix.

THE ſame Remedy will do againſt the Sting of a Bee. If a Waſp be diſturbed he leaves his Sting behind, otherwiſe he carries it away. If a Bug bite uſe the following: Oil of Sweet Almonds three Drachms, Camphorated Spirit of Wine two Drachms, Oil of Turpentine and Tincture of Myrrhe, of each half a Drachm.

Of Flies.—As an ingreſs to theſe Creatures cannot be hindered, only ſome little help can be had. It is to be obſerved that among other Sweet things, theſe Creatures are fond of that Sweetneſs that is found in

Sal Saturni or Sugar of Lead; therefore it is beſt to make a mixture of four Ounces of Water, four Ounces of the coarſeſt Sugar, and two Drachms of the above ſaid Salt, and let ſuch a Quantity be put into ſeveral wide Mouth Vials in the Room, when they will leave all other things, and wholly apply themſelves to that, and will ſtick therein and be ſuffocated. Again if you ſpread the Juice of the Holly-berry thinly upon Paper, and ſtrew thereon a few Grains of the Sal Saturni, and likewiſe a little Sugar, they will light thereon, and never can clear themſelves of it, when you may do with them what you pleaſe.

Ways to take out Spots, &c. out of things, viz.—Ink fallen on Linen or Paper is diſcharged thus, *viz.* Dip the Feather-part of a Pen into Spirit of Salt, and paſs it over the Place where the Ink is, and as ſoon as it diſappears, dip the Linen or Paper in Water; but if the Paper ſhould not afteawards bear Writing well, you muſt rub it firſt with Powder of Gum-Sandarick, which is called Pounce. Ink likewiſe may be diſcharged from printed Books in the ſame manner without hurting the Print; for the Printing being done with Oil and Lampblack, the Acid can't hurt it: This muſt be done by true Spirit of Salt, which is not eaſy to be had; but I deſign in a little Time to prepare ſome for myſelf and Friends, as I ſhall do various other Medicines of Genuine and true kind. *Aqua Fortis* will likewiſe take out Ink; but then it leaves a diſagreeable yellow Colour. Red Ink is diſcharged in the aboveſaid Manner by true Spirit of Nitre. Iron-moulds are diſcharged out of Linen likewiſe by the above Spirit of Salt. Red Wines are diſcharged out of Linen by ſprinkling on them Spirit of Salarmoniac, and afterwards dipping them in Water. Milk without its Cream grown ſour will alſo diſcharge Wines. Wax Candle is diſcharged thus, *viz.* Wet a Rag, put ſome Embers of the Baker's Oven into it, hold it to the Cloaths where the Wax is ſtuck in, and the Wax will paſs away into the Wet Rag. If Pitch or Tar be fallen upon Cloaths, waſh the Place with an Ounce of ſtrong Spirit of Wine, having in it ten drops of Oil of Lavendar or Oil of Roſemary, which will diſcharge it. If Greaſe be fallen upon Cloaths, it will be diſcharged thus, *viz.* Take a Laver or Mixture of one Spoonful of the Liquor of the Ox Gall, and ſix Ounces of a ſoft Water, with this waſh the Place, which if it ſhould be Silk that is daubed, and it be wrinkled by the Work, you muſt cover Paper upon the Place, and paſs a Taylor's Iron over it pretty warm, and this will make it ſmooth again;

gain; but not too hot, becauſe that may make ſome weaker Colours fly, as the yellow, *&c.* If Lemmon-Juice fly upon a browniſh Coat, the Place will be whitiſh, upon which if you pour a few drops of good Spirit of Salarmoniac, the Colour will return, and the Cloth will be browniſh again.

Staining Linen to bear Waſhing.—— Diſſolve half a Drachm of Lapis Infernalis or Silver-cauſtic in an Ounce of diſtilled Water, with this Mark upon the Linen with a very ſmall Bruſh, and it will be a brown Colour that never will Waſh out. Juice of unripe Sloes make a laſting.

TAKE a Perriwinkle, break the Shell, prick a Vein on the Back, you have a greeniſh Liquor, which being marked on the Linen, afterwards turns reddiſh, and then remains a laſting Purple. If it be deſired to Mark upon Iron, it is done thus, namely, cover the Blade of the Knife with Wax, then with a Bodkin Cut what Marks you would have thro' the Wax, and fill up thoſe Spaces with a ſtrong Solution of Sublimate Corroſive made in Vinegar; other Marks upon Iron are made by Stamping.

Softening Well Water. —— In order to do this, about an hundred Weight of Chalk muſt be put down into a large Well, which Chalk muſt not be in Powder, but in Lumps; becauſe then it can't ſo eaſily riſe or float. And this Chalk muſt be renewed about once a Year. This will greatly ſoften it for boiling Meat, or Waſhing; but the mean Secret lies here, *viz.* if it be for Waſhing, add to it the following, that is, diſſolve half an Ounce of true Pot-aſhes or Pearl-aſhes, which is the ſame Thing, in half a Pint of Water, which paſs thro' a philtre, and add it to a Gallon of the above Water; but if it be for boiling Meat, let there be only a Drachm and half of the Pearl-aſhes, which Aſhes can do no harm to the Victual: The above Pearl-aſhes muſt be genuine; other Sorts I have found to be adulterated by dried Kitchen Salt, which will be diſcovered if you ſprinkle it upon a red-hot Spatula, where it will make a Noiſe and Crack.

THERE is another Way of doing this, *viz.* by expoſing Well-Water for five or ſix Days to the Air, which greatly ſoftens it; but proceeding with the Pearl-aſhes as juſt ſaid it greatly improves the Buſineſs; for Pearl-aſhes or ſome other Lixivial-Salt are the ingredients in all Soaps that make them laver or Waſh.

Smell of Paint in Rooms.—This will be taken away much ſooner by proceeding thus, *viz.* Let three or four Tubs, pretty wide, be ſet on the Floor juſt by the Wainſcot, and filled within an Inch of the top with

Water, and if ſuch a Tub contains eight Gallons, add to it an Ounce of Oil of Vitriol, which Water condents and retains the Effluvia of the drying Oil they Paint with, which is what gives the Offence; for Colours themſelves don't give Smells: this will have a very good Effect in three Days; but the Water muſt be renewed every Day.

Pricked Wines.——Put four Ounces of rectified Spirit of Malt into a clean Oil-flaſk, add to it a Drachm of Salt of Tartar, ſet it in warm Water to digeſt three Days, after ſhaking it, of this Spirit put half an Ounce to every Quart of the Wine to be mended, when the alcalious Salt abſorbs the Sourneſs, and a new Spirit is given.

Moths do great Injury to the Drapers, &c.——Theſe fly in the beginning of *May*; the end of *July* they quit their Wings. If in the beginning of *June* you fume them with Sulphur-matches, you will moſtly deſtroy them. Latter end of *July* it would do well to bruſh and ſweep; but the beſt way is to Crumble dried Leaves of Tobacco between the Folds of the Cloth, which will keep them away.

We have mentioned a Way to have Fruits in Winter, which to thoſe well verſed in Experimental Philoſophy will not ſeem ſtrange, yet is not known by every Body, *viz.* It is ſo contrived by ſome that there are made Receivers, *&c.* for the Antleapneumatica that may be exhauſted of Air, and then removed to another Place, in which receivers, if Fruit be put in *June*, ſuch will be good enough at the End of *December*, which will ſurprize many.

HAVING viſited the Coal-works at *Newcaſtle* out of Curioſity, I was ſurprized at the ſame. Some of theſe Pits are now under the Sea; and tho' begun two Miles from the Town, are now carried under *Gates-head*, the Suburbs of the Town; ſome of which are 600 Feet deep. There are 2000 Carts employed in the Work, and 120,000 Men, a Nurſery of *Engliſh* Seamen. The Carts carry 2000 Weight of Coals, which they bring two Miles to the Sea-ſide without an Horſe, becauſe the Ground is all the Way on a deſcent, ſo that the Wheels run on wooden Grooves fixed in the Ground, which Wheels are commanded by a Man who ſits behind, and lets them go, or ſtops them by a Preſſure on them by a Machine. Into ſome of theſe Pits a Candle, *&c.* muſt not be carried, becauſe there is a Sulphurous Gas or Steam that takes Fire, and ſuffocates the People. To give light therefore into the Place they make uſe of certain Fiſh ſkins, which look a little lucid, and are of ſome ſmall Service. A ſomewhat better Way than this is to fix a large Stone to move round by a Machine, that grinds againſt Iron, when the Sparks flying from it give a light; but a better ſtill is to have ſeveral Pint white thin Vials of the Liquid Phoſphorus deſcribed herein, out of which if you pull the Cork, it is light, if ſhut, it is dark again, as I demonſtrated ſeveral times at my public Lectures here; and if this Preparation ſhould decay, it may be enlivened again by more Phoſphorus.

I SHALL now take Notice of an ill Practice exerciſed by ſome in and about *London* of cutting off the Outſide of Meat, when it is almoſt Stinking, and then rubbing the ſame with Blood, to make it look freſh, and paſs for good Meat.——— *Dead Animal Bodies in a putrified State are poiſonous, therefore unſafe to eat.*

Punch.—This Compound is made by ſome ill People, by mixing Oil of Vitriol with the other Ingredients, inſtead of Lemons.—*This being a mineral violent Acid may ſtimulate the Guts or Inteſtines very much, and thereby ſubject the Drinker to Cholics, which the Lemon, a more mild Vegetable one, may not ſo much.*

Stale-Beer.—This by ſome is made Stale, not by keeping, but by putting to it Oil of Vitriol likewiſe, whence may ariſe the aboveſaid Evils to Health.

Ale how ſome ripen it.——There are ſome ill Men who make *Newberry* Beer, *Welſh* Ale and *Nottingham* Ale ſeem ripe in Bottles, by putting into it ſome Salt of Tartar or Pot-aſhes, and then adding ſome Oil of Vitriol, which meeting together, raiſe what is called a Ferment, and make it froth and ſeem ripe.

THERE are ſome again who mix Whiting in making Bread, which is the Cauſe of having our Bread ſo ſoon dry.——*Whiting has in it both Size and Allum, the laſt of which is not an Ingredient to be played with, and the firſt is Leather boiled to a Jelly, which afterwards by ſtanding, putrifies, and ſtinks, as we ſee Walls do that are juſt Sized.*

THAT which is called by ſome, Raiſin Brandy, is only weak Malt Spirits drawn ſomewhat higher.

AND that called by ſome, Apple Brandy, is only Meloſſes Spirits put into Cyder Caſks.

I HAVE known ſome baſe enough to uſe common Vitriol, of which Oil of Vitriol is made, to make Cucumbers look Green that are Pickled.

THERE are ſold frequently eatable Things, as Ginger-bread, Images of Sugar, *&c.* having on them what People imagine to be Gold-leaf, which is Copper beat out in imitation of it, which is a dangerous thing to eat; for if at ſuch a time Spirit of Salarmoniac, Spirit of Harts-horn or the like ſhould be given ſuch a Perſon, it might diſſolve part of the Copper, and inflame the Kidneys; for Copper receives all Menſtruums, therefore called *Venus*; and indeed Verdigreaſe which is made of Copper is ſo violent an Emetic, that a Scruple of it will Vomit a Dog to Death. If a Phyſician ſhould be called in a hurry to a Perſon that has ſwallowed Poiſon, I adviſe him to give one or two Grains of Cryſtals of Verdigreaſe, vulgarly called diſtilled Verdigreaſe; for the Minute it is down in the Stomach it will return and bring all with it; whereas other Emetics take ſome time to operate, during which the fatal Miſchiefs may be done.——*We have found it to be ſo, by trying to diſſolve it by the proper Menſtruums, or diſſolving Liquors, and by examining the Specific Gravity.*

SOME there are who uſe the Seeds of bitter Apples in brewing Drink inſtead of Hops.—*This is the Seed of what is called the Colocynth, well known in Phyſic, an harſh and coarſe Purge.*

I HAVE diſcovered that ſome in *London*, in making coloured Sweetmeats, are baſe enough to colour them Yellow with what is called Maſticot.——*Upon an Examination of this thing, it will be found to be Lead calcined*

cined to a Yellowneſs, which is a very improper Thing to be taken down into the Stomach.

SOME again colour red with Vermillion or red Lead.——*Vermillion is what is called factitious Cinnabar, a mercurial Preparation, which is not to be played with, nor uſed by any, unleſs by thoſe in the Practice of Phyſic. Red Lead is likewiſe highly unſafe, or if they uſe native Cinnabar it is alſo mercurial.*

SOME are baſe enough to colour green with Verdigreaſe. – *Verdigreaſe, being the Product of Copper reduced to a Ruſt by the Huſks of the Grape, is an Ingredient highly hurtful, if not poiſonous, and deſtroys the Workmen who paint with it, without taking it down into the Stomach.*

SOME colour yellow with Gumboge diſſolved in Spirit of Wine.——*Gumboge is fitter for uſing in Painting in Water-colours, than to be taken into the Body; it is violent both by Vomit and Stool, and by its Acrimony occaſions an inſupportable Drought in the Throat; therefore all Perſons ought to beware how they play Tricks with it.*

Coffee, by ſome, is adulterated many Ways, *viz.* ſome roaſt with it Peaſe, or Horſe Beans, and greaſe it with cheap Butter; others do not roaſt it above half enough, that it may weigh the more; but then it is of an unpleaſant Taſte; theſe are Frauds on the Pocket.

Chocolate. This ſome do not roaſt near enough, that it may weigh the more, and grind therewith Flour; which is a Fraud alſo on the Purſe.

Tea. Some diſſolve *Japan* Earth in hot Water, and mix with *Bohea Tea*, whence it gives a higher Colour in drawing.——*That called Japan Earth is Catechu, an inſpiſſated Juice from the* Indies, *uſed to cure Fluxes of the Belly, and Catarrhs, but not to be played withal.*

Green. This by ſome is mixed with wild Angelica, or ſome other dried Herbs, which they think will be the leaſt diſcovered; a Fraud on the Purſe.

Wine. In this there is a ſad Adulteration by ſome, and chiefly in the Port, which is moſtly called for in *England*, and ſo much in uſe, that *Portugal* itſelf cannot ſupply half what is wanted, and who will not let us have their whole Product neither. In many Inns in the Country there is only found a compound *Wine*, made or brewed by Artiſts in *London:* Red is made of ſome White Wine, ſome Cyder, ſome Meloſſes, and coloured with Juice of Sloes: If white be ſcarce, it is made of Cyder and Meloſſes Spirits, which are Frauds relating to the Purſe: But what touches Life and Health is a bold and ſhocking Practice, exerciſed by ſome, in clarifying *Wines* with Ratſbane and white Lead.

RATSBANE or Arſenic needs no Comment, every one knows its direful Effects: White Lead contains in it an arſenical Principle, and is near as deſtructive as the Ratſbane, and which Ingredient deſtroys the Workmen that make it, and thoſe that Paint with it.

OTHERS put Madder and Salt in Ales, which Salt is to make it bear a Head, as 'tis called.

THERE is a Drink ſold that it called Twopenny, which by ſome ill People is ſometimes mixed with *Indian* Cockles, which makes this Drink get ſooner up into the Head, and intoxicates the Drinker, which is very dangerous.

THE *Coculæ Indicæ* are of a poiſonous Nature, and of much the ſame Kind as *Nux Vomica*, *Semina Hyoſciami*, and *Staphidis Agriæ*, all dangerous Things. I hope theſe Enormities have not reached *Ireland* yet.

Hair is blackened thus, viz.——Diſſolve an Ounce of the fineſt Silver in about two Ounces, or more of *Aqua Fortis*, to which put twelve Ounces of diſtilled Water, when the Lock of Hair muſt be laid on a Board, and wetted with it, and tied up in Paper, taking Care the Neck be not touched by it. As Hair grows, it muſt be done afreſh.

For Cattle making bloody Urine.—Take dryed red Roſes, two Drams, Mutton-ſuet, three Drams, Wax, half an Ounce diſſolved in Sweet Oil, Cyprus Turpentine, Maſtich, each two Drams, Crabs Eyes, a Dram, which give by Way of Drench in warmiſh Water, as often as need be. As the bleeding proceeds from either eating the black Thorn, too rank Graſs, or being over-driven, the Cauſes muſt be avoided. Care too muſt be had that they don't get at Sorrell.

Iron is blackened thus, viz.—It muſt be held in the Focus or Point of the Flame of a Candle till hot, and then rub thereon black Roſin, which holds a good while; but no one yet in the World can blacken Iron to be laſting; and indeed, I doubt whether it will ever be done; but believe any other Metal might.

It is well known that Silver-hilted Swords blacken and ſpoil Cloaths, and that Heads of Canes of that Metal do ſo by Gloves, &c. but upon Examination it will be found that the blackneſs does not proceed from the Silver, but from an Alloy or Admixture of Copper that is in it, and that if it be purified well, it will not have this diſagreeable Effect; and indeed we ſee that tho' *Lapis infernalis* is black, yet if the Silver be pure it is lightiſh. Gold Heads of Canes alſo blacken; but this is alſo from Copper in it, and if pure it will not do it; but as pure Gold is too ſoft and pliable for Utenſils or Coin either, Copper is mixed therewith to give it an hardneſs.

Death Watch.—This is a little ticking Noiſe that has often been heard in Houſes, which has affrighted ſome People, as tho' it was a thing ominous; but being well looked into, it is only a certain He Worm courting the She.

As to Spiders.—They have been thought by many to be poiſonous; but to prove the Contrary of this we would acquaint our Readers that not long ſince there came a Man to the Royal Society at *London*, who offered to eat as many of them as they would have him, which he did of the large Houſe-Spiders, and received no harm, *Fungebantur aliquo Modo officio cantharidum quo ad priapiſmum.*

It is to be noted notwithſtanding that the little black Spiders that run upon the Ground in the Fields are noxious. Some Spiders as well as the Tarantula have eight Eyes.

The Farmers receive great detriment by the Blacks that come into the Corn, againſt which divers Methods have been tried in *England*, *Scotland*, and here, namely, by putting ſeveral things into the Earth when they Sowed, and by preparing the Corn; but all in vain. The only thing that can be done is this, *viz.* to let two Men hold a long Rope in their Hands, and draw it along againſt the upper Part of the Stalk, ſo as to make it bend down a good Way, which will fling off the wet or drops of Water that lie there, which does the Office, as it were, of a Lens or burning Glaſs, upon which the Sun ſhining, the Heat is reflected, whence a Calcination or Combuſtion of the Corn enſues.

A propoſal for Cleanſing away Mud, &c. where Waters have a Stream or Current.

IT is well known that foul muddy Waters carry along with them a conſiderable quantity of Mud, *&c.* which they are apt to depoſite in great quantities, eſpecially in Places, where, by Reaſon of the frequent Return of Tides, it has more Time to depoſite its Sediment, by Reaſon of its ſometime ſtagnant, ſlow and contrary Motion; as in the Mouths of Rivers that are not rapid, in Harbours and Reſervoirs, which are filled by the Tides.

Now, if Water can by any means be made conſiderably more muddy in flowing out of, than into, ſuch places, thoſe places muſt conſequently be gradually cleanſed of ſome of their Mud, in Proportion to the greater degree of muddineſs of the Waters when they flow out, than when they flow in.

And this I think may be effected in a good meaſure by the following means, *viz.* by keeping the Mud well ſtirred while the Stream is flowing out of the place, by means of large Rakes, linked at the ends of each other, and drawn by Horſes; which Rakes muſt have one, two, or three rows of Teeth, nearer or further off from each other, according to the different degree of ſtiffneſs or ſoftneſs of the Mud. And if theſe Teeth ſtand as high out on the upper as on the lower Side of the Rakes, then, when the Horſes turn to go back along with the ſame Stream, the Rakes being thereby turned over, the Teeth which were uppermoſt, being then become loweſt, will take place and ſtir up the Mud.

And theſe Rakes may be drawn, either farther from or nearer to the Shore, as ſhall be required, by various means, *viz.* By the Horſes on either ſide going for ſome ſpace, before or behind the others, or when the Horſes can only go on one ſide, by having them fixed to different Ropes of different lengths, as Occaſion ſhall require. And ſometimes by fixing, either before or behind, as Occaſion ſhall require, broad Pieces of Wood edgwiſe, which, by running obliquely into the Mud, might turn the Rakes, in the ſame manner as Rudders do Ships; whereby their progreſſive Motions would be, not according to the direction of the drawing Rope, but in the deſired Courſe.

By theſe and the like means great quantities of Mud might be ſtirred up, and carried off by the Water, and that without any great Expence, conſidering the Advantage it might in many Caſes be of, in cleanſing off of Mud.

Tryals might at leaſt be made, in ſome of the more commodious Places for the purpoſe; whence a better Judgment might be made as to the probability of ſucceſs. Neither ſhould we be diſcouraged, if Matters do not at firſt anſwer our Expectation: It is from repeated Trials and Obſervations, that we are to hope to make ſucceſsful Improvements in new Attempts, which are often baffled and laughed out of Countenance by incompetent Judges; who fancy they ſhew their deep Judgment and Penetration, in ſlighting and rejecting Attempts, which at firſt may prove unſucceſsful; but which an unwearied Diligence and Perſeverance might make effectual, to the great Benefit and Advantage of Mankind.

There would be no great Expence in making a few Tryals of this ſort, in commodious Places for the purpoſe; which I am perſuaded would be found to carry off ſuch Quantities of Mud, as would encourage the farther Proſecution of it.

AND we have good Encouragement to make ſome Attempts in this way, from the ſucceſs that the Inhabitants of *Damaſcus* find in cleanſing their many muddy Rivulets, *viz.* by putting a great Bough of a Tree into the Water, and faſtening to it a Yoke of Oxen; upon the Bough there ſits a good Weighty Fellow, to preſs it down to the Bottom, and to drive the Oxen: In this Manner the Bough is dragged all along the Channels, which are thereby cleanſed. See Mr. *Maundrell's* Journey from *Aleppo* to *Jeruſalem.* Now a well-contrived Rake would not only require leſs force to draw it than large Boughs of Trees, but would alſo more effectually raiſe and ſtir up the Mud than Boughs could do. And poſſibly there may be ſome Caſes, in which it might be of ſervice, to have either very long or broad Harrow-like Rakes, moved briſkly to and fro, by the large Cranks of Water-wheels fixed in ſteadily-anchored or moored Barges, or elſewhere, as Occaſion may require.

I HAVE here only given a general Hint which may poſſibly be farther improved by ſome of the many ingenious Maſters in Mechanics, with which this Age abounds.

The Cure againſt the bite of the Viper was kept a Secret a long time, which at laſt was known to be done by an Oil made from the Fat of the inteſtines of the Viper. Not long ſince there came a Man and Woman to *Windſor*, who offered the Phyſicians and Apothecaries of that Place to ſhew them a new cure againſt the bite of the Viper; and for that Purpoſe a Day was appointed at the Town-Hall, where many Gentlemen being gathered together, the ſaid Man and Woman deſired a Chaffing Diſh of Charcoal to be brought; then the Man irritated a very vived Viper, which bit him upon the Knuckle of the Thumb, and upon this the Woman held his Hand over the Charcoal and anointed it. After that he cauſed another Viper to bite him on the Arm, which place ſhe alſo anointed, when no harm enſued. After this the Woman was bit in her turn, whom the Man anointed, and ſhe received no harm. A Purſe then was collected for declaring the Secret, which was no more than ſweet Sallad Oil.

Since the above I have talked with an ingenious Surgeon from the *Weſt-Indies*, who informed me, that the ſame Oil has been tried againſt the bite of the Rattle-Snake, and found effectual. It were to be wiſh'd that the ſame Remedy were tried againſt the bite of a Mad-Dog, which is a deplorable Caſe, and againſt which we know no ſure Cure.

A Dog being bit on the Shoulder by a Rattle-Snake, and rubbed with Oil, and Oil given him, he only ſwelled. If not thought foreign to the purpoſe, I would add here another Obſervation, *viz.* A Surgeon and ſome others being gathered together to open a Dog, to ſee the motion of the Heart, the ſaid Dog bit one of the Perſons preſent, who died raving mad notwithſtanding the Dog was no way ſo before the cutting.

THE following was related to me by the Secretary to the Royal Society at *London:* A Lady was turning out ſome old Things in a Box, among which was a dried Head of a Rattle-Snake, with the Tooth of which ſhe pricked her Finger, and died by the Poiſon received from it.

IT is well known that the Common Snakes have no Poiſon or harm in them, and that what he puts out of his Mouth, that People think to be a Sting, is his Tongue, ſome of which are kept in Glaſſes in the College in *Dublin:* Such a Snake was kept by a Man in the North of *England* to ſhew in Ale-houſes for what he could pick up of People, which he put on the Table to be the better ſeen: When the Snake would try to creep off the Table, and the Men would as often toſs him on again with his Hand, till the Snake growing angry, bit him, and which bite was attended with the uſual deadly Symptoms of the Viper. It is alſo a Quere, whether if almoſt any enraged Animal ſhould bite a Man, it would not have ſome ſuch Conſequence, or a Man enraged ſhould bite a Man?

COMMISSIONER Roſs in the King's Service at *Edinburgh*, related the following: That when he was in the *Weſt-Indies*, he walked out one Day where there were ſome Mulberry Trees, upon one of which he ſaw a Rattle-Snake, when he ſtruck gently at it with his Cane, on which the Creature ſtruck at the Cane to bite it, and inſtead of it bit the Tree: After which he walked ſeveral times that Way, and ſaw the Tree began to die, the Bloſſoms to fall off, and the Leaves wither; which if ſo is an odd Event. This ſame Gentleman (who was accounted a Man of Veracity) ſaid that he ſaw a black Snake and a Rattle-Snake near one another, when the laſt ſtruck at the firſt to bite him, and inſtead of that, bit himſelf near the Tail, and died by his own Poiſon.

Obſervation on Soaps, viz.—That which is the whiteſt is from *Turky*, it is made of Poppy-Oil, Lime, and Salt, which is to be rejected in Medicine. The *Marſeilles* and *Alicant* are the beſt Soaps; but a better, and not nauſeous will be made thus, *viz.* Salalcali three Drams, ſweet Oil an Ounce and half, and forty five Grains.

IT ſometimes happens that the Ink uſed in Writings of Conſequence will be loſt or obliterated, which may be of very ill Conſequence; but this Writing may be made plain and legible thus: Take Auripigmentum half an Ounce, quick Lime an Ounce, mix them, upon this pour ſix Ounces of ſoft Water, digeſt in a Bolthead upon warm Sand ſix or eight Hours, during which never put your Noſe to the Mouth of the Veſſel, let it cool, paſs the Liquor through a Rag, and dip the Feather-part of a Pen therein, which ſtrike over the Writing you would reſtore, and you may plainly read it.

IF a Perſon be about to ride any where in Winter, and ſuſpects it will Rain, he may know by the following Obſervation eight Hours before the Rain comes, and ſo reſolve to take a Great Coat with him, or otherwiſe eſcape it, *viz.* Let him obſerve the top of the Mercury in the tube of the Barometer, and if the Rain be about to come, it will be indented or concave, otherwiſe, convex or protuberant.

Making a good White Wine.—Take three hundred Pounds weight of *Malaga* Raiſons, cut them like minced Meat, pour on them ſixty-two Gallons of Water near boiling, ſet it to ferment in a Veſſel for a Fortnight, ſtirring it every Day; when the fermentation is over, preſs it from the Raiſons, and put the Liquors into Caſks and cork them, reſerving a dozen Bottles of it to fill into the Caſks as their Liquor ſinks, let it ſtand for four Months, then to every four Gallons of it put a Quart of ſoft Brandy, having firſt drawn it off into other clean Caſks, then preſs the Sediment through a fine Flannel Jelly-bag, and join it to the other, ſo let it ſtand two Months with the Brandy, and it is done.

The Method of making Phoſphorus.

EVAPORATE five or ſix Hogſheads of Urine (that has fermented five or ſix Days) until it becomes black and hard like Soot. Five Hogſheads of Urine gave thirty eight Pounds of this Matter hard and brittle.

EIGHTEEN or twenty Pounds of this Powder is enough for two Operations, with a Receiver containing ſeven Gallons.

TAKE four or five Pounds of this Powder, put it in an Iron Pot in the open Air, over a Coal Fire, until the bottom of the Pot is red hot, ſtirring it continually till the fœtid Oil and volatile Salts be almoſt diſſipated,

pated, and the Powders ceaſe to ſmoke; it will then acquire the ſmell of Peach Flowers. Repeat the ſame Operation with four or five other Pounds till the twenty are calcined.

TAKE ſix or ſeven Pounds of this calcined Powder, pour on ſeven or eight Pints of Water, ſtir it well, and let it ſoak for twenty four Hours; then pour off the Salt-water by Inclination; dry and Powder well what remains.

THE preceding Calcination had carried off one third Part of the weight of the Sediment; the waſhing carries one half of the remaining two Thirds. Three Pounds or a little more of the remaining Matter is ſufficient for one Operation in the Receiver above, and produces nine Drams of Phoſphorus.

WITH theſe three Pounds of Matter calcined, waſhed and dried, mix one Pound and half of coarſe Sand or Freeſtone pounded, the fineſt part being ſifted from it and thrown away as uſeleſs. River-Sand will not do, becauſe it ſparkles when it feels a great Heat. To theſe four Pounds and an half of mixture, add four or five Ounces of pounded Charcoal made of Beech Wood, or any other except Oak, becauſe it ſparkles alſo in the Fire: Moiſten the whole with half a Pound of Water, mix it well and make it up into Balls, and put them into the Retort ſo as not to dirt the Neck of it.

BEFORE you put the Retort into the Furnace, it will be expedient to make the following Eſſay, to know whether you may hope to ſucceed.

PUT one Ounce of this mixture into a Crucible, and heat it till it is red hot: After it hath ſmoaked, it muſt ſplit without ſwelling, even without riſing in the Crucible. Then will ariſe with rapidity undulations of white and blueiſh Flames. In thoſe is all the danger of the Operation. When thoſe Flames are over, you muſt increaſe the Fire by putting lighted Coals on the top of the Crucible.

THEN will a luminous quiet vapour appear, covering all the ſurface of the Matter, of a Violetiſh colour: This is the ſecond Phoſphorus. This vapour laſts very long, and has a ſtrong ſmell of Garlick, which is the criterium of *Cunckel*'s Phoſphorus. Other Phoſphoruſes in Powder have a ſmell of Brimſtone, or of Hæpar Sulphuris.

WHEN all this luminous vapour is diſſipated, pour it on a Plate of Iron. If you find no Salts in fuſion, and that all the Matter is reduced to Powder, it ſhews that the Matter has been ſufficiently waſhed, and that it contains no more fixed or marine Salts than is neceſſary; otherwiſe the Operation is likely to miſcarry, becauſe the Retort will be eaten through with the Salts; therefore you muſt waſh it and dry it again.

If the Matter ſwells and puffs up in the Crucible, you will have no Phoſphorus: As it happened to us when we made uſe of Urine from the Dyers, which had Allum infuſed in it.

No Retort, we know, will bear the great Fire neceſſary in this proceſs, except thoſe from *Heſſe-Caſſel*. The Furnaces muſt be ſuch as in a ſmall ſpace will give a heat at leaſt equal to that of the Glaſs-Houſe.

To a Retort of *Heſſe-Caſſel* adapt a large receiver, one third Part of which muſt be filled with Water: They muſt be luted together with a Paſte made of crude Pipeclay, and the greaſey Oil uſed by Painters; this muſt be covered with common luting, diluted with a decoction of ſtrong Glue. Stop all the upper holes of the Furnace, and let the luting dry for two or Three Days. If the luting ſhould crack in drying, you muſt then paſs it over with a Painter's bruſh dipped in common luting thined with Glue: for there muſt not be the leaſt crack or vent left for the Air in this place; for the Phoſphorus would then take Fire, and be loſt. However, a Hole is abſolutely neceſſary; for without it there is no poſſibility of ſucceeding. And in this lies the ſecret of the

Operation, yet no Chymiſt has ever ſpoken of it in the proceſs of the Phoſphorus.

THIS Hole muſt be ſituated ſo, that the Phoſphorus may be obliged to circulate on the Surface of the Water, before it can reach it.

THE Hole muſt be likewiſe four or five Inches only above the Surface of the Water, and one twelfth Part of an Inch in Diameter. It muſt be ſtopped with a Bit of Beech, with a Knot at one End, that it may not fall into the Receiver, and go eaſily into the Hole.

THIS Stopper muſt be taken out frequently, and the Hand muſt be held before the Hole to feel if the Air ruſhes out too violently. If it does, you muſt ſtop the Aſh-hole to abate the Force of the Fire; if it does not come out with Force enough, quicken the Fire by adding more Coals, and ſhutting the Door. In a Word, if the Fire is well ordered, the Operation will not fail; but it is by the little Hole only that you may aſſuredly know how to do it.

THE Proceſs of the Phoſphorus generally laſteth twenty four Hours. We commonly begun it at two o'Clock in the Morning by putting black Coals in the Aſh-hole, and a little lighted Coals at the Door of it, to heat the Retort very ſlowly. When they are well lighted, puſh them in the Aſh-hole, and ſhut the Door with a Tile: This moderate Heat drieth the luting, and diſtils a Flegm from the Mixture.

At ſix o'Clock, we put the Coals on the Bars, and the Fire in the Aſh-hole lights it little by little. With this Fire brought nearer to the Retort, the Receiver is heated, and fills itſelf with white Vapours that have the ſmell of Fœtid Oil.

At ten o'Clock, the Receiver clears and cools. Then you muſt open the Aſh-hole about three Inches, and put freſh Coals on the Bars of the Fire Place every three Minutes; taking Care to ſhut the Door, leſt the cold Air ruſhing in ſhould break the Retort.

At Noon, the Receiver is covered with a volatile Salt that cannot be drove away without a very ſtrong Fire. You muſt take Care that this Salt does not ſtop the little Hole, for it would then burſt the Retort.

The Water in the Receiver being heated in half an Hour, diſſolve this Salt.

This Salt ſmells like Peach-kernels. At three o'Clock, new Vapours riſe like Salarmoniac: Thoſe Vapours are condenſed into a Salt adhering to the ſides of the Receiver, and are not rarified, but form long Striæ which the Vapours of the Water contained in the Receiver cannot diſſolve.

THOSE Vapours are the forerunners of the Phoſphorus; and towards the latter end of the diſtillation they change their ſmell into that of Garlick. As they ruſh out with great violence, care muſt be taken frequently to unſtop the Hole, and even to ſhut up the Aſh-hole entirely. Thoſe white Vapours laſt but about two Hours. When they have ceaſed to ariſe, unſtop a little the Air-Hole of the Furnace, to give a paſſage to the Flame. The Fire muſt be continued in this middle ſtate, until the firſt volatile Phoſphorus begins to ariſe; which happens about ſix o'Clock in the Evening, which you may know by pulling out the ſtopper, and rubbing the end of it againſt a warm part of the Furnace: if it is covered with Phoſphorus, it will leave a ſtroke of Light after it. Soon after this there iſſues a blueiſh Light thro' the hole of the Receiver, which continues with more or leſs violence to the end of the Operation. You may hold your Finger to this Light for half a Minute without burning, and it will be covered with this Light, which you may rub over your Hands and make them all over luminous; bnt this light will ſometimes ſhoot out to ſeven or eight Inches, with ſparkling and cracking, and then it will burn whatever is put before it. When this happens, ſhut the Door of the Aſh-hole, and manage the Fire with great caution: Nevertheleſs, you muſt not omit to put freſh Coals under the Retort every two Minutes.

THIS volatile Phoſporus laſts for two Hours, at the end of which, the blue Flame, iſſuing from the hole, contracts itſelf to about the one Tenth of an Inch; then muſt the Fire be increaſed to the greateſt height, and continued ſo for ſix or ſeven Hours, ſo that all the inſide of the Furnace may look white, and the Retort become inviſible.

DURING this great heat, the Phoſphorus is diſtilled like Oil or melted Wax, part of which ſwims on the Water, and the reſt is precipitated to the bottom. The Operation is ended when the upper Part of the Receiver grows red.

THEN ſhut all the Doors, and ſtop all the Holes to ſtifle the Fire; the little Hole in the Receiver muſt alſo be ſtopped with Lute or Wax.

LET every Thing remain ſtill for two Days, leſt the Phoſphorus take fire upon the opening of the Veſſels.

WHEN the Receiver is entirely cold, pour three Pints of Water in, and ſhake it well to mix and precipitate the Phoſporus to the bottom; then pour the Whole into a clear earthen Pan, and let it ſettle at the bottom. Then pour off this Water, and put boiling hot Water on it to melt the Phoſphorus, which will afterwards ſettle at the bottom of the Veſſel in a Cake of a Slate-colour. When this Water is almoſt cold, pour it all into cold Water, and break the Cake into ſmall Pieces, and mold it in the following Manner:

CHUSE Glaſs taper Tubes of the Size you would have your Phoſphorus; cork the ſmall End of them, and fill them with boiling Water; immerce them alſo into a Veſſel of boiling Water; then throw the Phoſphorus in ſmall Pieces into the Tubes, ſtirring it well with a Piece of Wire. The Water about the Tubes muſt be kept very hot, until you find the Phoſporus tranſparent in the Tubes. Let them cool a little in the open Air, and then plunge them in cold Water, which will congeal the Phoſphorus. When it is entirely cold, take out the Cork, and thruſt it up towards the broad Part of the Tube with a little Stick; cut off the top of each Stick of Phoſphorus, which is foul and black, then proceed to waſh and mold them as before.

N. B. If you intend to make very ſmall Cilinders of Phoſphorus, it is beſt to mold it firſt into larger.

The Liquid Phoſphorus *is made thus.*
—PUT two Grains of the above Phoſphorus

rus into a Glaſs or Marble Mortar, add to it nine Grains of Camphire, then add ſome Oil of Cloves to it, juſt to moiſten it, work it well with the Peſtle, adding more of the Oil until you have put to it three Drams, when, continue to ſtir, and then pour all out into a Phial and ſtop it well. With this Phoſphorus you make ſeveral Experiments in the dark, as rubbing it on the Hands, or Face, which will not burn any thing, as the other does.

It may not be uſeleſs here to acquaint Apothecaries that the Yolk of an Egg diſſolves Chymical Oils, and Expreſs'd ones, ſo as to make them mix with Water; and that a very little Spirit of Wine helps to powder Camphire.

A curious and uſeful Glue.

Take an Ounce of Iſing-Glaſs, beat it to Shreds, put it into a pint of Brandy, where, by means of a little Heat, or gentle ſimmering over a common Fire, it is gradually diſſolved; then ſtrain the Solution through a piece of Fine Muſlin; and thus you have a Glue, that ſhould be kept in a Glaſs cloſe ſtopped.

This Glue, with a very gentle Heat, diſſolves thin, tranſparent, and almoſt limped; when uſed in the Manner of common Glue, it joins the parts of Wood together, ſtronger than Wood is joined to itſelf; ſo that the pieces thus joined will break in any other part rather than where they are Glued. It is alſo remarkable that if Saw-duſt or powdered Wood be made into a Ball with this Glue, the Ball will prove ſolid and elaſtic; ſo that it may be turned and uſed as a Bowl without breaking. And whether by means of ſuch a Glue as this ſomething conſiderable may not be effected in the emboſſing of Wood-work, we leave to farther Experience. The Glue being thus made with Brandy will keep longer without corrupting; and is therefore a proper form wherein to preſerve Iſing-Glaſs ready diſſolved for the fining of Wines, or other uſes.

ANOTHER curious uſe of this Glue is, that it ſerves excellently for taking off the impreſſions of Medals, or Coin: Thus if a little of this melted Glue be poured thinly upon a Guinea, ſuppoſe, ſo as to cover the whole ſurface of the Piece, and the Glue be ſuffered to remain thereon for a Day or two, till all becomes thoroughly dry, it will appear hard and tranſparent, like a piece of Muſcovy Glaſs, with the impreſſion of a fair Guinea in Entaglio, as they call it, on one ſide, and in Relievo on the other.

THIS Glue, therefore, dries into a very ſtrong, tough, and tranſparent ſubſtance;

not eaſily to be hurt or damaged by any thing but aqueous moiſture, which would ſoon diſſolve it; ſo that it is not fit to be uſed in any Work that muſt be expoſed to wet or Weather; but for a Glue to ſtand the Weather, let choice be made of the common Glue diſſolved with Linſeed Oil.

THE natural and experimental Hiſtory of Glue might greatly tend to the improvement of Chymiſtry: For it ſhould ſeem as if all animal and vegetable Subſtances were either originally made up, or might at laſt be reſolved into Glue or Jelly. Doubtleſs a knowledge of the nature of Ropineſs, Viſcidity, Sizineſs, Moldineſs, *&c.* would give conſiderable light to natural Philoſophy and Medicine, and lead us farther into the effects, nature and proceſs of Growth, Fermentation, and Putrefaction. This Enquiry therefore ſhould be proſecuted with Care; beginning, for Example, with that viſcous Subſtance the white of an Egg, or ſerum of the Blood, in their natural Salts; and obſerving how their tenacity is altered, by moderate degrees of Warmth or Cold. The Enquiry might next proceed to the mucilaginous Matter of Snails, Frog-ſpawn, Fiſh, and other Animals in Embrio, Vegetables, *&c.* and gradually proceed to Subjects of the Mineral Kingdom: And this Enquiry we apprehend may be uſefully proſecuted without the Aſſiſtance of a Chymical Apparatus; ſo as to diſcover the beſt Ways of preparing Cements, Glues, Sizes, Jellies, *&c.* for various Mechanical and Oeconomical Uſes.

An Account of what quantities of Chymical Oil, or Extracts, ſome Ingredients afford.

THREE Pounds of black Ellebore extracted with Water, and then by digeſting in Spirits, give a Pound of Extract.

THREE Pounds of Agarick extracted in Brandy, or equal Parts of Spirit of Wine and Water, give one Pound fourteen Ounces of Extract and Reſin.

THREE Pounds of Colocinth picked from the Seeds give a Pound of Pulp, three Pounds of which Pulp give a Pound and two Ounces of Extract.

THREE Pounds of Turbith-Root give eight Ounces of Extract.

TEN Buſhels of Chamomile Flowers give five Ounces one Dram of Chymical Oil.

AN hundred Weight of Hyſop gives two Ounces of Oil.

PENYROYAL, an hundred Weight, gives two Ounces.

MARJOROME, an hundred Weight, gives two Ounces and half.

ROSEMARY gives ſix Ounces.

AN hundred forty eight Pounds of Sage give five Ounces one Dram.

An Account of what quantity of Volatile Salts divers Plants, &c. give, viz.

Celandine, a Pound, give two Drams.

Fumitary, two Drams forty eight Grains.

Night-ſhade, two Drams.

Hemlock, one Dram twelve Grains.

Wild Purſlain, one Dram two Grains.

Fennel, two Drams twenty Grains.

Wood-Sorrel, one Dram.

Shepherds Purſe, two Drams forty eight Grains.

Meadow ſweet, one Dram fifty Grains.

Lillies of the Valley, one Dram.

Nettles, fifty eight Grains.

Hops, one Dram.

Elder, one Dram fifty four Grains.

Hounds tongue, one Dram ſix Grains.

Stinking Orach, three Drams twelve Grains.

Burdock Leaves, one Dram.

Violets without the Flowers, two Drams twenty Grains.

Young Onions, one Dram twelve Grains.

Muſhrooms, two Drams.

The way to prepare theſe Salts is thus, *viz.* Five Pounds of the Green Herb muſt be put into a large Retort, which muſt be placed in an Iron Pot fixed in a Furnace, where it muſt be covered with Bakers Aſhes, to which muſt be joined a Receiver, and a very gentle Fire continued under it for five or ſix Days, to ſweat over or diſtil the Phlegm or Moiſture, and about the ſixth Day a dry Receiver muſt be applied, and the Fire augmented to drive up the volatile Salt, which when come, the Fire muſt be immediately taken out.

The Proceſs by which Longueville *imitated Gold, for which the* Dutch *boiled him alive in Oil, was this:*

TAKE Copper four Ounces, calcine it with common Sulphur 'till it comes to an Ounce and Quarter, which muſt be done by ſeveral red-hot Makings, and when it becomes green, it is enough. Then take this calcined Copper, and an Ounce of Borax, melt them very well together, then caſt it out of the Crucible, and beat off the Droſs, and melt it again with as much Borax; caſt it out again, and beat off the Droſs as before, repeating this Work a third Time, then melr again by itſelf in a ſtrong Fire, adding thereto two Ounces of Gold; let it ſtand a while in Flux, add ſome Borax to it, and keep it there an Hour, then caſt it out into Ingots, repeating the Fluxing till the Borax remains white;

then melt this Artificial Gold alone, and caſt into it Grains of Nitre, till it has got a good large Skin on the top of it, then caſt it into Ingots; and it is done.

An Account of poſonous Worms in eatables, &c.

THERE is a poiſonous Worm in the hairy Part of the Muſcle, which is the thing that makes People ſo Sick, and often Swell; even ſome have been ſeen to be full of Blotches after eating them: The Muſcle conſidered abſtractly of this Worm is not poiſonous.

THERE is a noxious Animal in Sheep's Trotters.

THERE is likewiſe one in Cow Heels.

LIKEWISE in the Lamprey.

THERE is a very little red Animal of the creeping Kind in the Body of the Crab between the Claws, which is the reaſon that that Fiſh often makes People both vomit and Purge.

THERE are little Animals found upon the Livers of Sheep of the ſhape of Flounders, which I have not yet had Opportunity to examine whether noxious.

THERE are Worms of the Tape-kind found in the Guts of young Lambs, of which I have met with ſome of ſix Feet long in thoſe of but five Weeks old.

If Sprats or Herrings diſagrree with People, it muſt be from the abundance of Oily-Fat they abound with; and about ſix Years ſince a Glut of the latter was brought to *Edinburgh*, of which People eat greedily, and nineteen of them died.

There are live Animals alſo found in Bay-berries, in Vinegar, and Brandy, into which laſt they muſt certainly come after it is made; otherwiſe they would be killed by the Heat that is uſed in diſtilling Wine into Brandy.

An Account of the quantity of Chyle or Nutriment that divers Aliments give into the Blood, proper to be known by Perſons that are too corpulent, or too thin, viz.

A Pound of Beef gives ſeven Drams and eleven Grains.

A Pound of Veal, nine Drams and twelve Grains.

A Pound of Mutton, eleven Drams and twenty two Grains.

A Pound of Lamb, nine Drams and ſix Grains

A Pound of Chicken, twelve Drams and ſixteen Grains.

A Pound of Pidgeon, eight Drams.

A Pound of Pheaſant, ten Drams and fourteen Grains.

A Pound of Patridge, twelve Drams and ten Grains..

A Pound of Calves Feet, ten Drams.

A Pound of Carp, eight Drams and ſix Grains.

A Pound of Turkey, ten Drams and forty Grains.

A Pound of Calf's Liver, ſeven Drams and twenty three Grains.

A Pound of Wild Duck, ſeven Drams and twenty Grains.

A Pound of Lobſter, ten Drams and twelve Grains.

And a Pound of White Wheat Bread gives four Ounces and one Dram of Nouriſhment to our Bodies; therefore called the Staff of Life.

An Account of the famous Lens *or* Burning-Glaſs *made at* Dreſden, *by Command of* Auguſtus, *King of* Poland, *by Monſieur* Shernonſen, *and of the Experiments I made with it at* London, *viz.*

THIS Lens is made of a compound Metal, of a concave Form, and about four Feet Diameter, which being placed in an oblique Form, there ſtreams from it a Fire or light of about four Feet in length, which Light is ſo extremely bright, that you can ſcarce look upon it. The Heat that this Focus gives is aſtoniſhing, and is thought to be ten times hotter than the Glaſs-Houſe Fire. It Vitrifies or turns to Glaſs moſt things immediately, ſuch as Bricks, Crucibles, even Tobacco-Pipes, Slates from Houſes, Tiles, China-Ware, all which bear a heat. Wood will be burned under Water; Silver will be driven away in Fumes, ſo will even Gold, only leaving a ſmall quantity of a blackiſh Earth. If a Diamond be held in the Focus it grows Opake, or loſes its tranſparency, and becomes full of Flaws; tho' a like Diamond being put in the Glaſs-Houſe Fire for ſix Weeks came out unhurt. There is one Thing that ſeems wonderful, namely, that the Atoms in the Sun, which ſeem to be of a Vegetable Nature, don't ſeem to be calcined by this frightful Fire. The thing that bears the heat beſt is burnt Hartſhorn, for this being deſtitute of Salts, cannot Vitrifie or turn to Glaſs; the Preſence of Salts occaſioning that change in Bodies, and the Abſence of them hindering it: And indeed any Perſon well verſed in Chymical Knowledge might think no great Change would be brought about in the burnt Bone; for it is a Virgin-Earth, and one of the real or laſt Principles of Things, and no further than that we cannot go in inveſtigating the Nature of Bodies.

While Experiments were making upon the Burning-Glaſs, a fatal Accident happened, *viz.* A *French* Officer of the Army, coming into the Place, and, not knowing what was doing, capered or danced thro' the Focus, which taking his Head, he died upon the ſpot.

A harder Glaſs than common.

We took four Ounces of Borax, and an Ounce of fine white Sand reduced to Powder, and melted them together in a large cloſe Crucible, ſet in a Wind Furnace, keeping a ſtrong Fire for half an Hour; then taking out the Crucible, and, when old, breaking it, we found at the bottom a pure hard Glaſs, capable of cutting Glaſs almoſt like a Diamond.

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